Los Angeles County
Metropolitan Transportation Authority

West Santa Ana Branch Transit Corridor

Draft EIS/EIR: Executive Summary

Metro

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WEST SANTA ANA BRANCH TRANSIT CORRIDOR PROJECT

Draft EIS/EIR: Executive Summary

July 2021

Draft Environmental Impact Statement/ Environmental Impact Report

LEAD AGENCIES: Federal Transit Administration of the U.S. Department of Transportation; Los Angeles County Metropolitan Transportation Authority

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CPUC	California Public Utilities Commission
EIR	environmental impact report
EIS	environmental impact statement
FTA	Federal Transit Administration
LPA	Locally Preferred Alternative
LRT	light rail transit
Metro	Los Angeles County Metropolitan Transportation Authority
MSF	maintenance and storage facility
MWD	Metropolitan Water District
NEPA	National Environmental Policy Act
Project	West Santa Ana Branch Transit Corridor Project
SHPO	State Historic Preservation Office
UP	Union Pacific
WSAB	West Santa Ana Branch

S EXECUTIVE SUMMARY

The Federal Transit Administration (FTA) and the Los Angeles County Metropolitan Transportation Authority (Metro) are sponsoring a transit project along the historic West Santa Ana Branch (WSAB) corridor within Los Angeles County, known as the WSAB Transit Corridor Project (Project).

S.1 Project Purpose and Need

S.1.1 Purpose of the Project

The Project's overall purpose is to provide high-quality reliable transit service to meet the future mobility needs of residents, employees, and visitors who travel within and through the corridor. This new transit service will increase mobility and connectivity for historically underserved and transit-dependent communities, improve travel times on local and regional transportation networks relative to not making this investment, and accommodate substantial future employment and population growth.

S.1.2 Need for the Project

Located in southeastern Los Angeles County, the Study Area is approximately 98 square miles and incorporates 20 individual cities (Figure S-1). The Study Area is currently home to 1.4 million residents and 618,500 jobs, which are projected to increase to 1.6 million residents and 746,000 jobs by 2042. Most of the Study Area is served by buses that operate primarily along a heavily congested freeway and arterial network. As the population and employment within the Study Area are predicted to grow substantially over the next 20 years, the congestion of the roadway network is expected to worsen, resulting in the further decreased reliability of transit service.

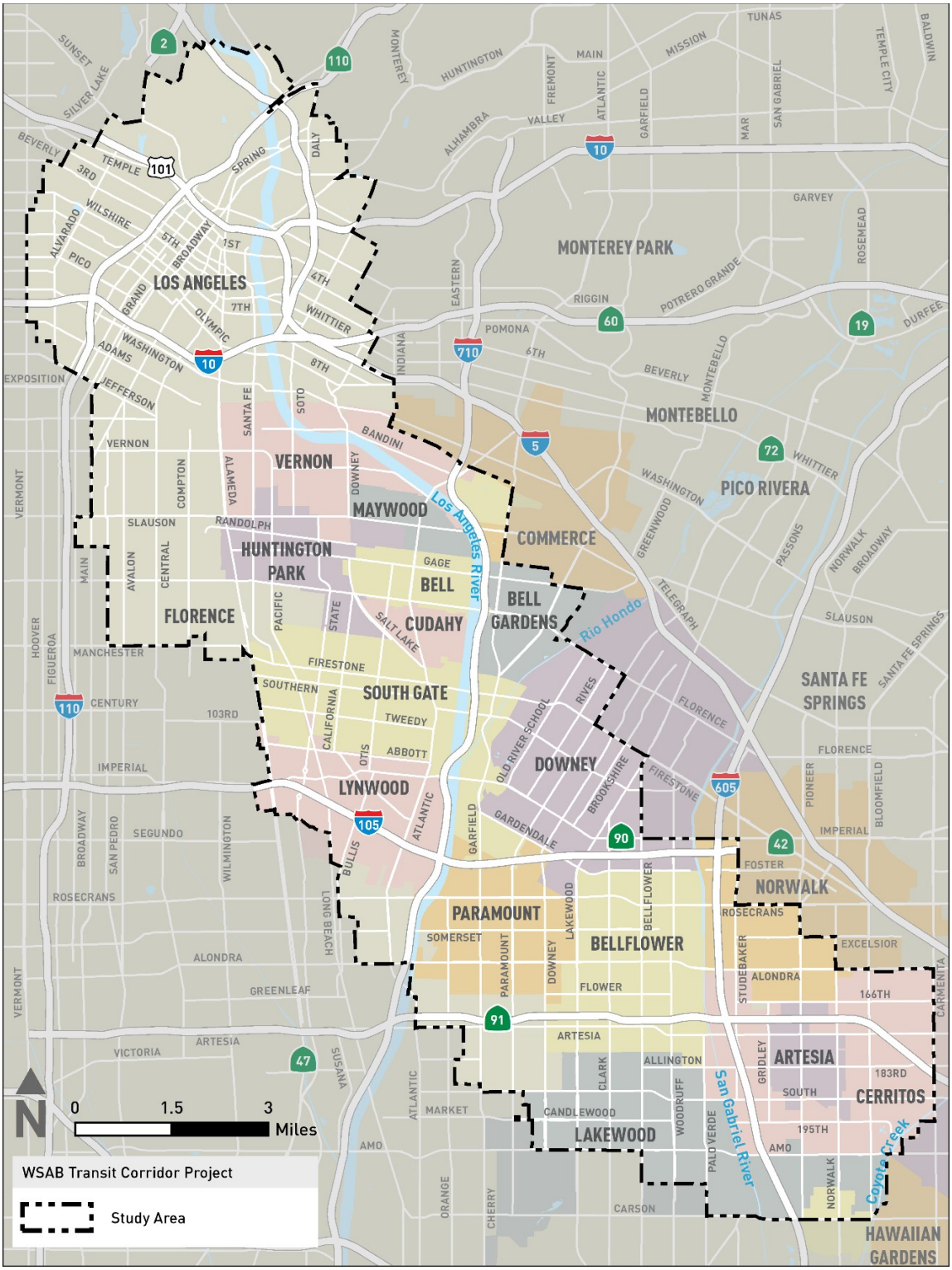
S.2 Alternatives Considered/Project Description

Metro has identified four Build Alternatives as well as a No Build Alternative that are considered and included in this Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR). Based on the findings for the Build Alternatives as evaluated in this Draft EIS/EIR, and in consideration of funding availability, Metro has identified Alternative 3 as the Staff Preferred Alternative.

S.2.1 No Build Alternative

The No Build Alternative provides the background transportation network, against which the Build Alternatives' impacts are identified and evaluated pursuant to the National Environmental Policy Act (NEPA). The No Build Alternative does not include the Project.

Figure S-1. WSAB Transit Corridor Study Area



Source: Prepared on behalf of Metro in 2020

S.2.2 Build Alternatives

Four Build Alternatives, two design options, and two site options for a maintenance and storage facility (MSF) are evaluated in this Draft EIS/EIR:

- Alternative 1: Los Angeles Union Station to Pioneer Station
  - Design Option 1: Los Angeles Union Station – Metropolitan Water District (MWD)
  - Design Option 2: Addition of Little Tokyo Station
- Alternative 2: 7th Street/Metro Center to Pioneer Station
- Alternative 3: Slauson/A Line (Blue) to Pioneer Station (Staff Preferred Alternative)
- Alternative 4: I-105/C Line (Green) to Pioneer Station
- Paramount MSF site option
- Bellflower MSF site option

Table S.1 summarizes the components for each Build Alternative, and Figure S-2 shows the alignments and station locations for the Build Alternatives.

Table S.1. Summary of Build Alternative Project Components

Project Components Alternatives	Build Alternatives			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Alignment length	19.3 miles	19.3 miles	14.8 miles	6.6 miles
Stations configurations	11 3 aerial; 6 at-grade; 2 underground[1]	12 3 aerial; 6 at-grade; 3 underground	9 3 aerial; 6 at-grade	4 1 aerial; 3 at-grade
Parking facilities	5 (up to approximately 2,795 spaces)	5 (up to approximately 2,795 spaces)	5 (up to approximately 2,795 spaces)	4 (up to approximately 2,180 spaces)
Length of underground, at-grade, and aerial	2.3 miles underground; 12.3 miles at-grade; 4.7 miles aerial[2]	2.3 miles underground; 12.3 miles at-grade; 4.7 miles aerial[2]	12.2 miles at-grade; 2.6 miles aerial[2]	5.6 miles at-grade; 1.0 mile aerial[2]
At-grade crossings	31	31	31	11
Elevated street crossings	25	25	15	7
Freight crossings	10	10	9	2
Freeway crossings	6 (3 freeway undercrossings[3] at I-710; I-605, SR-91)	6 (3 freeway undercrossings[3] at I-710; I-605, SR-91)	4 (3 freeway undercrossings[3] at I-710; I-605, SR-91)	3 (2 freeway undercrossings[3] at I-605, SR-91)

Project Components Alternatives	Build Alternatives			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
River crossings	3	3	3	1
Radio towers	2	2	0	0
TPSS facilities	22[1]	23	17	7
MSF site options[4]	2	2	2	2
Capital cost (2020$) with MSF[5]	$8.5 billion – $8.8 billion	$9.2 billion – $9.5 billion	$4.9 billion – $5.1 billion	$2.3 billion – $2.6 billion

Source: Prepared on behalf of Metro in 2021
Notes: [1] Under Design Option 2 – Add Little Tokyo Station, an additional underground station and TPSS site would be added under Alternative 1.
[2] Alignment configuration measurements count retained fill embankments as at-grade.
[3] The light rail tracks crossing beneath freeway structures.
[4] Only one maintenance and storage facility would be constructed.
[5] Costs range from the low end (with the Bellflower MSF site option) to the high end (with the Paramount MSF site option). The cost ranges include the cost of Design Option 1. Costs for Design Option 2 are not included and may differ from Design Option 1.
MSF = maintenance and storage facility; TPSS = traction power substation

The Build Alternatives would operate approximately 22 hours daily, seven days per week, from about 4:00 a.m. to 2:00 a.m.

Construction activities are anticipated to occur over the course of approximately six years, commencing in 2022 and ending in 2028. Revenue service is expected to begin in 2028.

S.3 Transportation

Chapter 3 of this Draft EIS/EIR discusses existing transportation conditions, effects, project measures, and mitigation measures (as applicable), and impacts after mitigation for operation and construction of the Project. Project measures are incorporated as part of the Project and consist of design features, best management practices, or other measures required by law and/or permit approvals that avoid or minimize potential effects. Mitigation measures are additional actions, not otherwise part of the Project, that are designed to avoid, minimize, or compensate for adverse or significant impacts.

A summary of impacts to the transportation system is provided in Table S.2. The analysis includes impacts to streets and intersections, freight tracks, transit, bicycle and pedestrian facilities, and parking. Table S.2 also identifies mitigation to address adverse and/or significant impacts.

Figure S-2. WSAB Transit Corridor Build Alternatives

Source: Prepared on behalf of Metro in 2020

Table S.2. Potential Transportation Impacts and Mitigation Measures

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Traffic Operations	Intersections where operations deteriorate because (1) tracks are through/adjacent to existing intersections and queues from mid-block rail crossings build up when gates are down, (2) vehicular traffic associated with proposed park-and-ride facilities, and (3) roadway modifications required to accommodate the Project.	**NEPA**: Alternatives 1, 2, 3, and the design options would result in adverse impacts at 20 intersections during one or both peak periods. Alternative 4 would result in adverse impacts at 7 intersections during one or both peak periods.	Signalization strategies to minimize impacts of queues and intersection modifications as described in Mitigation Measures TRA-1 through TRA-19, which are specific intersection improvements.	**NEPA**: Alternatives 1, 2, 3, and the design options would continue to have adverse impacts at 12 intersections. Alternative 4 would not have adverse impacts after mitigation.
Transit	Each of the Build Alternatives would increase the percentage of trips within Los Angeles County that are taken on transit. This mode shift is reflected in the number of daily new transit trips taken.	**NEPA**: Relative to the No Build Alternative, in 2042 daily new transit trips would increase by: Alternative 1 — 18,375 Alternative 2 — 20,224 Alternative 3 — 9,206 Alternative 4 — 4,749 Design Option 1 (MWD)[1] — 19,289 Design Option 2 (Add Little Tokyo)[1] — 17,007	None required	**NEPA**: None
Active Transportation	The Project would cause impacts to active transportation (pedestrian and bicycle) facilities where it would remove or degrade a bike facility or sidewalk. Beneficial effects would occur where new facilities are added, or existing facilities are upgraded.	**NEPA**: All Build Alternatives would displace sections of the Paramount Bike Trail and Bellflower Bike Trail, which could result in an adverse effect if not realigned. Active transportation enhancements would include physical improvements (e.g., barriers and gates), channelization and signing, illumination, and other design improvements.	Realign bike trails per Mitigation Measure LU-1 (Consistency with Bike Plans).	**NEPA**: With mitigation, these existing active transportation facilities would be realigned to maintain continuity under all Build Alternatives and there would not be adverse effects after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Parking	The Project could affect the supply of on- and off- street parking, and contribute to spillover parking impacts in the vicinity of future stations. Also, parking would be removed in some areas to accommodate the tracks.	**NEPA**: The Build Alternatives would not result in adverse effects related to off-street parking. Alternatives 1 and 2 would result in adverse effects related to on-street parking, as the loss of parking would not accommodate the existing demand. For Alternatives 1 and 2, the combined total of dedicated parking provided and on-street parking availability would not accommodate the projected demand at the Firestone Station, and adverse effects could occur.	Mitigation Measures TRA-21 (Parking Monitoring and Community Outreach) and TRA-22 (Parking Mitigation Program [Permanent]).	**NEPA**: Parking patterns near future stations and in areas where existing parking is removed would change. After mitigation, adverse effects would remain for Build Alternatives 1 and 2.
California Environmental Quality Act Determination —Operation	Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	**CEQA**: The Build Alternatives would improve transit service, accessibility, and reliability. Active transportation networks would be modified to accommodate the Project. The Build Alternatives could preempt the future development and implementation of planned bicycle paths.	Realign bike trails per Mitigation Measure LU-1 (Consistency with Bike Plans).	**CEQA**: Significant and unavoidable impacts due to conflicts with bicycle master plans for all Build Alternatives after mitigation.
	Would the Project conflict or be inconsistent with *CEQA Guidelines* Section 15064.3, subdivision (b)?	**CEQA**: Relative to the Existing Conditions, VMT would decrease by: Alternative 1 216,100 Alternative 2 215,000 Alternative 3 71,800 Alternative 4 36,300 Design Option 1 (MWD)[1] 236,300 Design Option 2 (Add Little Tokyo)[1] 218,500	None required	**CEQA**: Beneficial effects and less than significant impact for all Build Alternatives.
	Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	**CEQA**: For all Build Alternatives, at-grade crossings would be designed with safety measures.	Mitigation Measure SAF-1 (Encroachment Detection)	**CEQA**: Less than significant for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project result in inadequate emergency access?	**CEQA**: The Build Alternatives would not interfere with adopted emergency response or evacuation plans, emergency service providers, or otherwise increase the demand for emergency response services.	None required	**CEQA**: Less than significant for all Build Alternatives.
Construction Phase	Construction would include track and station construction at-grade through and adjacent to local streets with live traffic, underground track and station construction, overhead/aerial track and station construction, at-grade station parkway construction, and street closure/turning movement restrictions.	**NEPA**: For all Build Alternatives, workers and equipment accessing the construction site would increase traffic and require parking. Transportation system effects associated with aerial (columns) or underground (cut and cover) construction of rail lines could result in lane or roadway closures, which would affect vehicular traffic and transit services. Construction could also result in closure of bicycle and pedestrian facilities. Existing freight tracks would require relocation in some locations.	TRA-20 (Transportation Management Plan(s)) and TRA-23 (Loss of Parking (Construction)).	**NEPA**: Temporary construction-related impacts would be minimized, but adverse effects would still occur for all Build Alternatives after mitigation.
California Environmental Quality Act Determination —Construction	Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities?	**CEQA**: Construction activities would not conflict with plans, policies, or ordinances associated with the transportation system.	TRA-20 (Transportation Management Plan(s))	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	**CEQA**: Construction activity would be localized to the work area and would not significantly change vehicle circulation in the Study Area as a whole.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	**CEQA**: Construction of the Build Alternatives would require temporary modifications that would follow standard construction practices for temporary vehicle, freight, pedestrian, and bicycle handling that would minimize hazards.	TRA-20 (Transportation Management Plan(s))	**CEQA**: Less than significant for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project result in inadequate emergency access?	**CEQA**: Construction activity would require temporary modification of existing transportation facilities. Coordination with emergency responders would occur to maintain emergency access and to minimize project-related delays in response times.	TRA-20 (Transportation Management Plan(s)) and COM-1 (Construction Outreach Plan)	**CEQA**: Less than significant for all Build Alternatives after mitigation.

Source: Compiled on behalf of Metro in 2021
Notes: [1] Data totals for Design Options 1 and 2 include the Alternative 1 alignment with the specified Design Option.
CEQA = California Environmental Quality Act; MWD = Metropolitan Water District; NEPA = National Environmental Policy Act; VMT = vehicle miles traveled

S.4 Affected Environment and Environmental Consequences

Chapter 4 of this Draft EIS/EIR discusses the existing conditions, environmental effects, project measures and mitigation measures (as applicable), and environmental impacts after mitigation for operation and construction of the Project. Both a NEPA finding, considering context and intensity of effect, and a California Environmental Quality Act (CEQA) determination are included. The CEQA determination included for each element of the environment identifies the CEQA significance thresholds that are applicable to that topic and provides an evaluation of the Project's effects relative to the thresholds.

Project and/or mitigation measures have been identified to address impacts. Project measures are incorporated as part of the Project and consist of design features, best management practices, or other measures required by law and/or permit approvals that avoid or minimize potential effects. These measures are requirements of the Project. Where relevant, the measures were included in the impact analyses. Mitigation measures are additional actions, not otherwise part of the Project, that are designed to avoid, minimize, or compensate for adverse or significant impacts. These measures are required where significant or adverse impacts have been identified based on the impact analyses.

A summary of operational environmental impacts and required mitigation measures is provided in Table S.3. Construction-phase impacts and mitigation measures are summarized in Table S.4. Growth-inducing, cumulative, and environmental justice impacts and mitigation measures are summarized in Table S.5.

Table S.3. Operational Environmental Impacts and Mitigation Measures

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Land Use	Project effects could relate to land use compatibility with surrounding land uses.	**NEPA**: The Build Alternatives would not conflict with surrounding uses, change the function of the rail ROWs as rail corridors, impede or change the function of the freight tracks and freight sidings that are used by nearby industrial uses, or physically divide an established community. The Build Alternatives would require the realignment of the Bellflower Bike Trail segment east of Bellflower Boulevard and the relocation of a bus stop to accommodate the Bellflower Station. The bike trail and bus stop would continue to be available for use by the community and access would not be affected.	Mitigation Measure LU-1 (Consistency with Bike Plans)	**NEPA**: With implementation of Mitigation Measure LU-1 (Consistency with Bike Plans), the Project would maintain function of the bike trails and continuity with the Paramount Bike Trail and Bellflower Bike Trail. Therefore, after mitigation no adverse effects would remain for any of the Build Alternatives.
	Project effects could relate to consistency with applicable regional and local land use plans, policies, and regulations.	**NEPA**: The Build Alternatives would be compatible with regional and local land use plans, policies, and regulations. However, all of the Build Alternatives could preempt future development and implementation of planned bike paths identified in local plans. While planned, the bike paths are unfunded and not scheduled for implementation. However, the reclassification of the bike paths is considered an inconsistency with the current bike plans and an adverse effect would occur.	Mitigation Measure LU-1 (Consistency with Bike Plans)	**NEPA**: With implementation of Mitigation Measure LU-1 (Consistency with Bike Plans), all Build Alternatives may still preempt current plans for future development and implementation of bike paths and would result in inconsistencies with local plans. The process to amend bike plans is a local process, including public participation, and the ultimate outcome and resolution of plan elements cannot be predicted. Therefore, after mitigation, adverse effects would remain for all of the Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project physically divide an established community?	**CEQA**: The Build Alternatives would not introduce physical barriers or generate permanent access disruptions to existing land uses on either side of the proposed alignment, and access to the surrounding community would remain available.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	**CEQA**: The Build Alternatives would be consistent with applicable land use plans, goals, objectives, and policies of regional agencies and local jurisdictions. However, Alternatives 1, 2, and 3 could preempt future development and implementation of planned bike paths identified for the Cites of Cudahy, Huntington Park, South Gate, and Bell. Alternative 4 could preempt future development and implementation of the planned bike path identified in the City of South Gate Bike Master Plan. While planned, the bike paths are unfunded and not scheduled for implementation. However, the reclassification of the bike paths is considered an inconsistency with the current bike plans and an adverse effect would occur. There would be inadequate space to accommodate a proposed bicycle path, project tracks, and relocated freight tracks.	Mitigation Measure LU-1 (Consistency with Bike Plans)	**CEQA**: The process to amend bike plans is a local process, including public participation, and the ultimate outcome and resolution of plan elements cannot be predicted. The Build Alternatives would result in significant and unavoidable impacts after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Communities and Neighborhoods	Project effects could relate to access and mobility, community character and cohesion, and community stability.	**NEPA**: The Build Alternatives would improve and not adversely affect access and mobility; community character and cohesion would be maintained; and increased connections among communities would support community stability. The Build Alternatives would result in changes to access and mobility patterns, but surrounding access to the community and community resources would remain. Changes to the existing noise, traffic, visual character, land use, and expected population growth would occur but would not affect community character and cohesion.	Mitigation Measures TRA-1 through TRA-19, which are specific intersection improvements, VA-1 (Screening at Somerset Boulevard) and VA-2 (Relocation of "Belle"), and NOI-1 through NOI-7, which include soundwalls, low-impact frogs, wheel squeal noise monitoring, crossing signal bells, gate-down-bell stop variance, and TPSS noise reduction.	**NEPA**: With mitigation, the Build Alternatives would not result in adverse effects.
	Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	**CEQA**: The Build Alternatives would not directly result in population growth within surrounding communities. Opportunities for TOD around stations is consistent with SCAG growth projections and local community plans.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Acquisitions and Displacements	Acquisitions would be required to accommodate the structures and columns for the aerial segments of the alignment, TPSS sites, parking facilities, permanent underground easements to accommodate tunneling for underground alignments and underground TPSS sites, and station entrances, grade crossings and separations, freight track relocation, and other ancillary facilities.	**NEPA**: The Build Alternatives would require full and partial acquisition of a varying number of parcels: Alternative 1 220 Alternative 2 283 Alternative 3 172 Alternative 4 59 Design Option 1 (MWD) 12 Design Option 2 (Add Little Tokyo) 4 Paramount MSF site option 43 Bellflower MSF site option 2 With compliance with the Uniform Act, California Relocation Act, and other applicable regulations, no adverse effect would occur.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Acquired properties would result in business displacements.	**NEPA**: The Build Alternatives would displace a varying number of businesses: Alternative 1 89 Alternative 2 108 Alternative 3 65 Alternative 4 18 Design Option 1 (MWD) 0 Design Option 2 (Add Little Tokyo) 1 Paramount MSF site option 5 Bellflower MSF site option 2 Metro would provide relocation assistance and compensation for all displaced businesses as required under the Uniform Act and California Relocation Act.	None required	**NEPA**: No adverse effect for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Acquired properties would result in residential displacements.	**NEPA**: The Build Alternatives would displace a varying number of residential units: Alternative 1 21 Alternative 2 21 Alternative 3 21 Alternative 4 8 Design Option 1 (MWD) 0 Design Option 2 (Add Little Tokyo) 0 Paramount MSF site option 7 Bellflower MSF site option 0 Metro would provide relocation assistance and compensation for all displaced residences as required under the Uniform Act and California Relocation Act.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project displace substantial numbers of existing people, housing, or business, necessitating the construction of replacement housing or replacement business elsewhere?	**CEQA**: Displacements would occur as shown in prior rows. This would not necessitate the construction of replacement housing or business. Metro would provide relocation assistance and compensation for all displaced businesses as required under the Uniform Act and California Relocation Act.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Visual and Aesthetics	The Project could affect visual character and quality, scenic vistas, light, and glare.	**NEPA**: The Build Alternatives would introduce new visual elements to the surrounding area. The Build Alternatives would not change the natural topography of the Affected Area, and most changes would be neutral and compatible with the surrounding visual compatibility, viewer sensitivity, visual quality, and visual character. The Build Alternatives would result in adverse visual effects with the removal of the "Belle" public art cow statue and the decorative wall and landscaping at Somerset Boulevard.	Mitigation Measures VA-1 (Screening at Somerset Boulevard) and VA-2 (Relocation of "Belle")	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	Would the Project have a substantial adverse effect on a scenic vista?	**CEQA**: No scenic vistas are present in the Affected Area. Therefore, no scenic vistas would be affected.	None required	**CEQA**: No impact for all Build Alternatives.
	Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	**CEQA**: No state scenic highways are located within the Affected Area. Therefore, no scenic resources within a state scenic highway would be affected.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	In nonurbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	**CEQA**: The Affected Area is urbanized. The Build Alternatives would remove the existing decorative wall and landscaping on the south side of the World Energy storage tracks (east of the proposed LRT tracks) in the City of Paramount and the "Belle" public art cow statue in the City of Bellflower. These effects would conflict with the City of Paramount Municipal Code requirement to conceal views of open storage areas and the City of Bellflower's public arts program.	Mitigation Measures VA-1 (Screening at Somerset Boulevard) and VA-2 (Relocation of "Belle")	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	**CEQA**: The Build Alternatives would not result in substantial change to existing lighting and glare.	None required	**CEQA**: Less than significant for all Build Alternatives.
Air Quality	The Project could affect daily air pollutant emissions in the Affected Area.	**NEPA**: The Build Alternatives would reduce regional air pollutant emissions through changes in regional transportation patterns due to mode shift and increased transit ridership. The Build Alternatives would not result in adverse effects related to MSAT emissions.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project conflict with or obstruct implementation of the applicable air quality plan?	**CEQA**: The Build Alternatives would reduce daily VMT within the Affected Area resulting in reduced emissions from vehicle exhaust and road dust.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	**CEQA**: The Project is listed in the region's currently conforming 2020-2045 RTP/SCS. The Build Alternatives would not result in an incremental increase in daily emissions that would exceed any applicable SCAQMD threshold.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project expose sensitive receptors to substantial pollutant concentrations?	**CEQA**: The Build Alternatives would not introduce a new land use development that would constitute a substantial direct source of air pollutant emissions to the Affected Area during operation.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	**CEQA**: The Build Alternatives would not generate a substantial source of operational odors.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Greenhouse Gas Emissions	The Project would reduce annual GHG emissions during operation.	**NEPA**: The Build Alternatives would reduce GHG emissions relative to the No Build Alternative. GHG emission reductions relative to the No Build Alternative for 2042, including amortized construction emissions ($MTCO_2e$/year). Reduction compared to No Build Alternative: Alternative 1 -34,824 (-0.061%) Alternative 2 -27,234 (-0.048%) Alternative 3 -1,681 (-0.003%) Alternative 4 -4,916 (-0.008%) Design Option 1 (MWD)[1] -38,783 (-0.068%) Design Option 2 (Add Little Tokyo)[1] -35,992 (-0.063%)	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	**CEQA**: The Build Alternatives would generate direct GHG emissions through operations at the MSF, and indirect GHG emissions would be generated through energy use; however, they would result in a net reduction in GHG over time.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG?	**CEQA**: The Build Alternatives are consistent with the 2016-2040 RTP/SCS and relevant GHG reduction and conservation plans.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Noise and Vibration	The Project could cause noise impacts at sensitive land uses.	**NEPA**: Moderate and severe noise impacts from LRT pass-by, ancillary facilities, and relocated freight operation would occur at a varying number of sensitive land uses: Alternative 1 327 Alternative 2 328 Alternative 3 288 Alternative 4 164	Mitigation Measures NOI-1 through NOI-7, which include soundwalls, low-impact frogs, wheel squeal noise monitoring, crossing signal bells, gate-down-bell stop variance, and TPSS noise reduction	**NEPA**: Mitigation would reduce the number of sensitive land uses experiencing noise impacts to: Alternative 1 225 Alternative 2 225 Alternative 3 211 Alternative 4 120 Effects would remain adverse at those locations.
	The Project could cause vibration impacts at sensitive land uses.	**NEPA**: Project operation could create groundborne vibration that would exceed FTA impact criteria at a varying number of sensitive land uses: Alternative 1 102 Alternative 2 101 Alternative 3 96 Alternative 4 62	Mitigation Measures VIB-1 (Ballast Mat or Resilient Rail Fasteners) and VIB-2 (Low-Impact Frogs)	**NEPA**: Mitigation would reduce the number of sensitive land uses experiencing vibration impacts to: Alternative 1 14 Alternative 2 14 Alternative 3 13 Alternative 4 11 Effects would remain adverse at those locations.
	Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established by FTA or in the local general plans or noise ordinances?	**CEQA**: Noise impacts would occur as identified in prior rows.	Mitigation Measures NOI-1 through NOI-7, which include soundwalls, low-impact frogs, wheel squeal noise monitoring, crossing signal bells, gate-down-bell stop variance, and TPSS noise reduction	**CEQA**: Significant and unavoidable after mitigation for the number of receptors identified in prior rows.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?	**CEQA**: Vibration impacts would occur as identified in prior rows.	Mitigation Measures VIB-1 (Ballast Mat or Resilient Rail Fasteners) and VIB-2 (Low-Impact Frogs)	**CEQA**: Significant and unavoidable after mitigation for the number of receptors identified in prior rows.
	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?	**CEQA**: No public airports or private airstrips are located within 2 miles of the project area.	None required	**CEQA**: No impact for all Build Alternatives.
Ecosystems/ Biological Resources	The Study Area supports urban landscaping and ruderal/ ornamental vegetation. Wildlife resources are limited to those species adapted to highly urbanized environments.	**NEPA**: The Build Alternatives would not adversely affect any candidate, sensitive, or special status plant species or protected trees. The Build Alternatives are unlikely to affect wildlife species if present. The Build Alternatives would not impact jurisdictional water resources.	None required	**NEPA**: No adverse effect for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?	**CEQA**: Operation of the Project would be unlikely to affect wildlife species and, therefore, impacts would be less than significant.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?	**CEQA**: The Build Alternatives would not result in impacts to riparian habitat or other sensitive natural communities.	None required	**CEQA**: No impact for all Build Alternatives.
	Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	**CEQA:** The Build Alternatives would not result in impacts to state or federally protected wetlands.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	**CEQA**: The Build Alternatives would not interfere with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. CDFW does not identify any mapped California Essential Habitat Connectivity areas within the Affected Area, nor does it contain any Missing Linkages, as identified by the South Coast Wildlands Network.	None required	**CEQA**: No impact for all Build Alternatives.
	Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	**CEQA**: The Build Alternatives would not conflict with any local policies or ordinances protecting biological resources.	None required	**CEQA**: No impact for all Build Alternatives.
	Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	**CEQA**: The Build Alternatives would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Geotechnical, Subsurface, and Seismic	The Affected Area could be subject to seismic shaking and fault-induced ground rupture, liquefaction and seismically induced settlement, seismically induced inundation, expansive soils, ground settlement and collapsible soils, and naturally occurring oil and gas.	**NEPA**: No known active faults capable of ground rupture are mapped within the Affected Area. The Build Alternatives could subject people and structures to moderate to strong seismic ground shaking. In accordance with state and local seismic design criteria, structures would be designed and constructed to withstand the estimated seismic ground shaking and resulting ground loads and deformations.	None required	**NEPA**: No adverse effect for all Build Alternatives.
		NEPA: The Build Alternatives could subject people and structures to the effects of liquefaction or seismically induced settlement. Adverse effects would be avoided with implementation of mandatory design requirements.	None required	**NEPA**: No adverse effect for all Build Alternatives.
		NEPA: For Alternatives 1 and 2, the proposed portal and underground station locations are outside of the dam inundation areas. For the at-grade elements of Alternatives 1, 2, 3, and 4, if seismically induced inundation occurred, the inundation would be short-lived and accommodated by drainage systems.	None required	**NEPA**: No adverse effect for all Build Alternatives.
		NEPA: The Build Alternatives could subject people and structures to the effects of expansive soils, which could result in damage to structures. Adverse effects would be avoided with implementation of mandatory design requirements.	None required	**NEPA**: No adverse effect for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
		NEPA: The Build Alternatives could subject people and structures to the effects of ground settlement, which could result in damage to structures. Adverse effects would be avoided with implementation of mandatory design requirements.	None required	**NEPA**: No adverse effect for all Build Alternatives.
		NEPA: Naturally occurring methane vapor and hydrogen sulfide gases could impact the operation of tunnels and stations within Alternative 1 (including Design Options 1 and 2) and Alternative 2. Naturally occurring oil and gas hazards are not anticipated to be a concern during operation of Alternatives 3 and 4.	Mitigation Measures GEO-1 (Hazardous Gas [Operation]), GEO-2 (Structural Design), GEO-3 (Gas Monitoring [Operation]), and GEO-4 (Tunnel Advisory Panel)	**NEPA**: No adverse effect for Alternatives 1 and 2 after mitigation. No impact for Alternatives 3 and 4.
	Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	**CEQA**: Alternatives 1 and 2 could experience impacts associated with a known earthquake fault. Alternatives 3 and 4 are not underlain by a known active fault capable of ground rupture and are not located within an Earthquake Fault Zone established by the State of California Alquist-Priolo Earthquake Fault Zoning Act. Impacts related to rupture along a known earthquake fault and co-seismic deformation would be less than significant with design and construction performed per applicable design criteria.	None required	**CEQA**: Less than significant for Alternatives 1 and 2. No impact for Alternatives 3 and 4.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?	**CEQA**: The Build Alternatives could be exposed to strong seismic ground shaking. Impacts related to seismic shaking would be less than significant with design and construction performed per applicable design criteria.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	**CEQA**: The Build Alternatives could be exposed to seismic-related ground failure, including liquefaction, lateral spreading, and seismically induced settlement. Impacts would be less than significant with design and construction performed per applicable design criteria.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?	**CEQA**: Natural landslides are not a hazard to the Build Alternatives.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project result in substantial soil erosion or the loss of topsoil?	**CEQA**: The Build Alternatives are located in an urban setting, and the topsoil layer in most of the Affected Area has been disturbed or concealed by previous human activities.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	**CEQA**: The Build Alternatives are in an area that may be prone to collapse or settlement. Impacts related to settlement or collapsible soil would be less than significant with design and construction performed per applicable design criteria.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	**CEQA**: Clay-rich soils may exist locally within alluvial soils present in the Affected Area. The Build Alternatives could potentially subject people and structures to the effects of expansive soils, which could result in damage to structures. Impacts related to expansive soil would be less than significant with design and construction performed per applicable design criteria.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	**CEQA**: The Build Alternatives would not expose people or structures to significant impacts involving the adequacy of soils to support septic tanks or alternative waste disposal systems.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Hazards and Hazardous Materials	The Affected Area contains sites of environmental concern.	**NEPA**: The Build Alternatives would be near a varying number of sites with environmental concerns: Alternative 1 619 Alternative 2 634 Alternative 3 298 Alternative 4 79 Design Option 1 (MWD)[1] 23 Design Option 2 (Add Little Tokyo)[1] 1 Paramount MSF site option 9 Bellflower MSF site option 3	If subsurface methane or other gases are present, installation of a passive or active venting system as described in Mitigation Measure GEO-1 (Hazardous Gas [Operations]).	**NEPA**: With mitigation, no adverse effects would occur for all Build Alternatives.
	Operation of the Project could use or encounter hazardous materials.	**NEPA**: The Build Alternatives, independent of activities at the MSF, would not include the use of hazardous materials or wastes for maintenance and operational purposes. Operation of the MSF would not emit hazardous air emissions. Extremely hazardous substances would not be used in quantities that exceed thresholds.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	The Project could encounter oil and gas wells, oil fields, and hazardous subsurface gases.	**NEPA**: Alternatives 1 and 2 would traverse an abandoned oil field. Abandoned oil wells are in the areas of Alternatives 1, 2, and 3. Unidentified abandoned oil wells may be present. The design options would have the same effect as Alternative 1. Alternatives 3 and 4 do not pass through abandoned oil fields and methane zones.	Mitigation Measures GEO-1 (Hazardous Gas [Operation]), GEO-2 (Structural Design), GEO-3 (Gas Monitoring [Operation]), and GEO-4 (Tunnel Advisory Panel)	**NEPA**: No adverse effect for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	**CEQA**: The Build Alternatives would not result in the routine transport, use, or disposal of hazardous materials or wastes. Long-term groundwater monitoring or future maintenance could encounter contaminated soil or groundwater. Operation of the MSF could involve storage of hazardous materials and wastes for maintaining and repairing rail equipment. Impacts would be less than significant with the appropriate management of hazardous materials, affected groundwater, and contaminated soil during operation.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	**CEQA**: The Build Alternatives would not involve the transport, storage, use, or disposal of hazardous materials in quantities greater than needed to support standard operations, and impacts would not occur. Operation of the MSF could involve storage of hazardous materials and wastes for maintaining and repairing rail equipment.	Mitigation Measures GEO-1 (Hazardous Gas [Operation]), GEO-2 (Structural Design), GEO-3 (Gas Monitoring [Operation]), and GEO-4 (Tunnel Advisory Panel)	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	**CEQA**: Operation of the Build Alternatives would not emit hazardous materials or handle hazardous or acutely hazardous materials, substances, or waste during project operation. Operation of the MSF may use cleaners and greasers that could contain small amounts of hazardous or acutely hazardous materials, substances, or wastes during operation. Impacts would be less than significant with the appropriate management of hazardous materials.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	**CEQA**: The Build Alternatives would operate near or on regulatory-listed sites with hazardous material contamination. Operation of the Project would not disturb the soil, soil vapor, or groundwater.	None required	**CEQA**: Less than significant for all Build Alternatives.
	For a Project located within an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	**CEQA**: No airports are located within 2 miles of the Build Alternatives.	None required	**CEQA**: No impact for all Build Alternatives.
	Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	**CEQA**: The Build Alternatives would not impair or interfere with adopted emergency response plans or evacuation plans because evacuation plans would typically avoid crossing active rail corridors (U.S. Department of Health and Human Services 2003) and the at-grade portions are located within active rail corridors.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	**CEQA**: No wildlands are located in the vicinity of the Build Alternatives.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Water Resources	The Project would introduce new or modified features that could have direct and indirect impacts to existing rivers, including new structures over rivers and additional impervious area.	**NEPA**: The Build Alternatives would increase impervious area by (acres): Alternative 1 14.7 Alternative 2 14.9 Alternative 3 8.3 Alternative 4 3.4 Paramount MSF site option 1.3 Bellflower MSF site option 12.7	None required	**NEPA**: No adverse effect for all Build Alternatives.
	The Project would cross FEMA-established floodplains.	**NEPA**: Tracks and structures associated with the Build Alternatives would be built above the existing river channel walls or levees. They would not encroach along the length of the river or result in incompatible development within the floodplain.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	The Project could affect groundwater.	**NEPA**: The Build Alternatives would be in a highly urbanized area; therefore, the net new impervious area would represent a negligible overall increase in total impervious area with respect to the watersheds and the corresponding groundwater recharge areas.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	**CEQA**: The Build Alternatives would be subject to the LA County MS4 NPDES permit and IGP. The MS4 NPDES permit requires implementation of site design, source control, and treatment control BMPs to the maximum extent practical.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	**CEQA**: The Build Alternatives and MSF site options would result in new impervious area, as quantified in prior rows. The increase in impervious surfaces within the Affected Area would be a negligible fraction of the 177,000-acre basin area.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on-site or off-site?	**CEQA**: The Build Alternatives would not substantially increase the rate or amount of runoff from the project site that could cause flooding on- or off-site.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	**CEQA**: The Build Alternatives would not adversely affect stormwater runoff.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through addition of impervious surfaces, in a manner which would impede or redirect flood flows?	**CEQA**: The Build Alternatives would not impede or redirect flood flows.	None required	**CEQA**: Less than significant for all Build Alternatives.
	In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to project inundation?	**CEQA**: The Build Alternatives would not result in significant impacts related to pollutant releases due to inundation. The Affected Area is not subject to seiche or tsunami risk.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	**CEQA**: The Build Alternatives would not obstruct implementation of a water quality control plan or sustainable groundwater management plan.	None required	**CEQA**: Less than significant for all Build Alternatives.
Energy	Operation of the Project would require energy.	**NEPA**: Operational energy consumption reduction from the No Build Alternative (MMBTU/year) in 2042: Alternative 1 -626,621 (-0.08%) Alternative 2 -515,569 (-0.06%) Alternative 3 -123,011 (-0.02%) Alternative 4 -116,630 (-0.01%) Design Option 1 (MWD)[1] -661,123 (-0.08%) Design Option 2 (Add Little Tokyo)[1] -618,243 (-0.08%)	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	**CEQA**: The Build Alternatives would not result in wasteful, inefficient, or unnecessary consumption of energy resources during operation. The change in operational transportation energy consumption compared to if the Project had been operating in 2017 (MMBTU/year): Alternative 1 156,597 (0.02%) Alternative 2 -478,042 (-0.05%) Alternative 3 -147,833 (-0.02%) Alternative 4 -98,425 (0.01%) Design Option 1 (MWD)[1] -682,705 (0.08%) Design Option 2 (Add Little Tokyo)[1] -400,696 (0.044%)	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	**CEQA**: The Build Alternatives would be consistent with the applicable regional and local conservation plans.	None required	**CEQA**: Less than significant for all Build Alternatives.
Electromagnetic Fields	Project operation will generate electromagnetic fields.	**NEPA/CEQA**: EMF levels produced by LRT vehicles would be below health safety criteria. There are no facilities with EMF-sensitive equipment in the Affected Area.	None required	**NEPA/CEQA**: No adverse effect/No impact for all Build Alternatives.
Historic, Archaeological, and Paleontological Resources	The Project could affect historic architectural (built environment) properties.	**NEPA**: Operation of Alternatives 1 and 2 would require the physical alteration of historic properties; however, adverse effects would be avoided. Additionally, all Build Alternatives would alter the Century Freeway-Transitway Historic District in a manner that is not adverse. Operation of the Build Alternatives would not change the use or alter the historic characteristics of any of the extant built environment historic properties in a manner that would diminish their integrity of location, design, setting, materials, workmanship, feeling, or association.	CR-6 (Historic Design Review)	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	The Project could affect archaeological resources.	**NEPA**: Operation of the Build Alternatives would not affect archaeological historic properties.	None required	**NEPA**: No effect for all Build Alternatives.
	The Project could affect paleontological resources.	NEPA: Operation of the Build Alternatives would involve minimal, if any, ground disturbance, and there would be no adverse effect to paleontological resources during operation of the Project.	None required	**NEPA**: No adverse effect for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	**CEQA**: Operation of Alternatives 1 and 2 would require the physical alteration of historical resources, which has the potential to result in significant impacts to built environment historical resources. Additionally, all Build Alternatives would alter the Century Freeway-Transitway Historic District in a manner that is less than significant.	CR-6 (Historic Design Review)	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?	**CEQA**: Operation of the Build Alternatives would result in no effect to archaeological historic properties.	None required	**CEQA**: No impact for all Build Alternatives.
	Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?	**CEQA**: Operation of the Build Alternatives would have no impact to human remains.	None required	**CEQA**: No impact for all Build Alternatives.
	Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	**CEQA**: Operation of the Build Alternatives would have no impact to paleontological resources.	None required	**CEQA**: No impact for all Build Alternatives.
Tribal Cultural Resources	Native American tribes were consulted in compliance with Section 106.	**NEPA**: No traditional cultural properties were identified within the Area of Potential Effect.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural	**CEQA**: One presumed tribal cultural resource has been identified in the Affected Area for Alternative 1 and Design Option 1. Operation of Alternative 1 or Design Option 1 would have no direct or indirect impacts to the resource. No other resources have been identified.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a) Listed or eligible for listing in the California Register of Historical Resources, or a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subsection (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Parklands and Community Facilities	Parklands and community facilities are located within the Affected Area of the Project.	**NEPA**: The Build Alternatives would require a partial property acquisition of a LADWP utility right-of-way located along the northern boundary of Paramount Park and a termination of the lease for the Metro-leased parking area within Paramount Park. Off-site parking located in the San Pedro Subdivision ROW and used by Salt Lake Park would be removed/relocated. The Build Alternatives would require the realignment of the Bellflower Bike Trail and Paramount Bike Trail.	Mitigation Measure LU-1 (Consistency with Bike Plans)	**NEPA**: With implementation of Mitigation Measure LU-1 (Consistency with Bike Plans), all Build Alternatives would maintain function of the bike trails and continuity with the Paramount Bike Trail and Bellflower Bike Trail. No adverse effect for all Build Alternatives after mitigation.
	Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable standards for any park or recreational facility?	**CEQA**: The Build Alternatives could preempt or obstruct future development and implementation of planned bike paths and limit access to bicycle facilities identified in adopted local plans.	Mitigation Measure LU-1 (Consistency with Bike Plans)	**CEQA**: Significant and unavoidable for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	**CEQA**: The Build Alternatives could provide greater accessibility to parks and bike facilities with nearby transit stations, which could result in increased use by the local and surrounding communities; however, the increased use is not expected to severely impact the infrastructure of the bike facilities.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	**CEQA**: The existing Paramount Bike Trail and Bellflower Bike Trail would be reconfigured to accommodate the Project, and access and connectivity would be maintained. The Build Alternatives could preempt or obstruct future development and implementation of the planned Class I bicycle path along Salt Lake Avenue (Alternatives 1, 2, and 3) and the planned Class I bicycle path north of Rayo Avenue and south of the Los Angeles River (Alternatives 1, 2, 3, and 4). While planned, the bike paths are unfunded and not scheduled for implementation. In addition, the reclassification of the bike paths is considered an inconsistency with the current bike plans and an adverse effect would occur.	Mitigation Measure LU-1 (Consistency with Bike Plans)	**CEQA**: Significant and unavoidable for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Economic and Fiscal Impacts	The Project could affect employment, property values, connectivity, and local tax bases.	**NEPA**: The Build Alternatives could directly generate $3.0 to $7.6 million in additional wages and salaries by creating 113 to 282 new jobs. Overall effects on property values are anticipated to have a net benefit to the regional economy. Effects on local businesses would include lost parking and increased access by transit. Private property converted to right-of-way would decrease the local tax base; however, increasing property values and new construction would increase tax revenue. The Build Alternatives would displace businesses as identified under the heading Acquisitions and Displacements above and associated jobs, which would likely be relocated.	Mitigation Measure TRA-22 (Parking Mitigation Program [Permanent]).	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	Would the Project result in substantial impacts to regional mobility and connectivity?	**CEQA**: The Build Alternatives would have beneficial economic and fiscal impacts by improving transit accessibility and mobility, enhancing regional connectivity, and reducing travel time and costs in the region.	None required	**CEQA**: Less than significant for all Build Alternatives.
Safety and Security	Transit system safety focuses on identifying, eliminating, and/or controlling safety hazards.	**NEPA**: The Build Alternatives would be designed to provide for the safety and security of passengers and employees. Portions of the right-of-way would be shared with freight operations, and an adverse effect could occur due to the potential for derailment and collision.	Mitigation Measure SAF-1 (Encroachment Detection) to detect potential derailments that may occur on Metro right-of-way.	**NEPA**: No adverse effect for all Build Alternatives.
	At-grade crossings would introduce the potential for collisions and potential hazards to motorist, pedestrian, and bicyclist safety.	**NEPA**: The Build Alternatives would comply with all applicable regulations. Traffic-control improvements and way-finding features would be implemented to provide safe passage and reduce potential conflicts between vehicles and pedestrians/bicyclists traveling between the parking facility and station entrances.	None required	**NEPA**: No adverse effect for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	The Project could interfere with local jurisdictions' emergency response plans or delay emergency service providers.	**NEPA**: Metro would coordinate with the applicable fire and police departments in addressing fire/life safety and security for the facilities within their respective jurisdictions. Metro, in coordination with local jurisdictions, would develop traffic management plans to reduce delays in response times for emergency service providers.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Security relates to protection of people from intentional acts that could result in injury or harm, and protection of property from deliberate acts.	**NEPA**: The Build Alternatives would be designed to include security features such as lighting, surveillance, CCTV, access control, and emergency call boxes to reduce the potential for crime and terrorist activity.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	**CEQA**: The Build Alternatives would not impair or interfere with adopted emergency response plans or evacuation plans because evacuation plans would typically avoid crossing active rail corridors (U.S. Department of Health and Human Services 2003) and the at-grade portions are located within active rail corridors.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project result in substantial adverse physical impacts associated with the provisions of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain response times or other performance objectives for fire and police protection services?	**CEQA**: The Build Alternatives would not introduce the need for new or expanded facilities relative to emergency service providers.	None required	**CEQA**: No impact for all Build Alternatives.
	Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	**CEQA**: The Build Alternatives would introduce new grade crossings. The LRT operations would share ROW with freight operations and impacts would be considered significant.	Mitigation Measure SAF-1 (Encroachment Detection) to detect potential derailments that may occur on Metro right-of-way.	**CEQA**: Less than significant for all Build Alternatives.

Source: Compiled on behalf of Metro in 2021

Notes: [1] Data totals for Design Options 1 and 2 include the Alternative 1 alignment with the specified Design Option.

BMP = best management practices; CCTV= closed-circuit television; CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; EMF = electromagnetic fields; FEMA = Federal Emergency Management Agency; FTA = Federal Transit Administration; GHG = greenhouse gas; IGP = Industrial General Permit; LADWP = Los Angeles Department of Water and Power; LRT = light rail transit; MS4 = municipal separate storm sewer system; MMBTU = million British thermal units; MSAT = Mobile Source Air Toxics; MSF = maintenance and storage facility; MTCO2e = metric tons of carbon dioxide equivalent; MWD = Metropolitan Water District; NEPA = National Environmental Policy Act; NPDES = National Pollutant Discharge Elimination System; ROW = right-of-way; RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy; SCAG = Southern California Association of Governments; SCAQMD = South Coast Air Quality Management District; TOD = transit-oriented development; TPSS = traction power substation; VMT = vehicle miles traveled.

Table S.4. Construction Environmental Impacts and Mitigation Measures

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Land Use	Temporary construction impacts on land uses in the Affected Area could include barriers and fencing, parking, lane and active transportation detours, and air quality and noise.	**NEPA**: The temporary construction activities associated with the Build Alternatives would be located within the public right-of-way and/or rail ROW or on sites acquired for construction. Temporary barriers and fencing along the perimeter of construction areas and additional temporary parking for construction personnel at construction staging areas would be provided. Sensitive land uses could also experience adverse effects related to air quality and intermittent construction noise. The Build Alternatives would comply with applicable regulations to minimize these effects.	Mitigation Measures COM-1 (Construction Outreach Plan), AQ-1 (Vehicle Emissions), NOI-8 (Noise Control Plan), and VIB-3 through VIB-7, which include a vibration control plan, minimizing the use of impact devices, drilling for building foundations, construction vibration limits, and construction monitoring	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	Would the Project physically divide an established community?	**CEQA**: Temporary construction impacts on land uses in the Affected Area could include barriers and fencing, parking, and lane and active transportation detours.	Mitigation Measure COM-1 (Construction Outreach Plan)	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	**CEQA**: Construction activities would be temporary and would not directly conflict with applicable regional and local land use plans, policies, and regulations.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Communities and Neighborhoods	Construction effects on community and neighborhoods could include temporary impacts to access and mobility, community character and cohesion, and community stability.	**NEPA**: Construction activities for the Build Alternatives would be temporary and include barriers around construction activities and staging areas that would be removed upon completion of construction. Temporary street, lane, and bike path detours and closures would be returned to preconstruction conditions. However, based on the timing of temporary closures and the implementation of detour routes, adverse effects would occur. Construction activities would not permanently isolate or alter the physical layout and character of the communities, and are not expected to cause residents to move out of their communities.	Mitigation Measure COM-1 (Construction Outreach Plan)	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	**CEQA**: Construction would be temporary and would not directly or indirectly induce unplanned population growth in the area.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Acquisitions and Displacements	Construction effects would include properties that are acquired for or affected by construction activities, and the affected businesses and residents.	**NEPA**: Construction would require acquisition of or temporary easement from a varying number of parcels in addition to those required for operation: Alternative 1 238 Alternative 2 235 Alternative 3 191 Alternative 4 87 Design Option 1 (MWD) 5 Design Option 2 (Add Little Tokyo) 3 Paramount MSF site option 2 Bellflower MSF site option 0 With compliance with the Uniform Act, California Relocation Act, and other applicable regulations, no adverse effect would occur.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project displace substantial numbers of existing people, housing or business, necessitating the construction of replacement housing or replacement business elsewhere?	**CEQA**: Acquisitions and easements would occur as identified in the prior row. These acquisitions to support construction would not result in displacements that would necessitate the construction of replacement housing or business.	None required	**CEQA**: Less than significant for all Build Alternatives.
Visual and Aesthetics	Temporary construction activities and staging areas would be visible and could temporarily alter visual quality.	**NEPA**: Construction activities in these areas could result in adverse effects related to visual quality. Construction would not affect any scenic views, but construction activities would be temporarily visible to sensitive viewers. If nighttime construction activities occur, sensitive viewers would also be highly sensitive to spillover lighting and glare that originate from construction areas.	Mitigation Measures VA-3 (Landscaping at LAUS), VA-4 (Construction Screening), VA-5 (Construction Lighting), and NOI-8 (Noise Control Plan)	**NEPA**: No adverse effects for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project have a substantial adverse effect on a scenic vista?	**CEQA**: No scenic vistas are within the Affected Area.	None required	**CEQA**: No impact for all Build Alternatives.
	Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	**CEQA**: No state scenic highways are located within the Affected Area.	None required	**CEQA**: No impact for all Build Alternatives.
	In nonurbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	**CEQA**: Construction has the potential to temporarily alter the visual character and quality of the Affected Area.	Mitigation Measures VA-3 (Landscaping at LAUS), VA-4 (Construction Screening), and NOI-8 (Noise Control Plan)	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	**CEQA**: Nighttime construction work could increase nighttime light or glare in the Affected Area and temporarily affect visibility.	Mitigation Measure VA-5 (Construction Lighting)	**CEQA**: Less than significant for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Air Quality	Construction effects would relate to criteria pollutant and ozone precursor emissions, and a nuisance of odor and dust.	**NEPA**: Construction would generate air pollution emissions, including earth moving, equipment and vehicle exhaust, and asphalt paving. Haul truck emissions for Alternatives 1 and 2 would exceed SCAQMD thresholds for daily NO_X emissions.	Mitigation Measure AQ-1 (Vehicle Emissions) for low-emission construction vehicles	**NEPA**: Construction activities could result in a temporary adverse effect related to emissions of criteria pollutants and ozone precursors for Alternatives 1 and 2 after mitigation.
	Would the Project conflict with or obstruct implementation of the applicable air quality plan?	**CEQA**: Haul truck emissions for Alternatives 1 and 2 would exceed SCAQMD thresholds for daily NO_X emissions.	Mitigation Measure AQ-1 (Vehicle Emissions) for low-emission construction vehicles	**CEQA**: Significant and unavoidable for Alternatives 1 and 2 after mitigation.
	Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	**CEQA**: Construction of Alternatives 1 and 2 would result in a significant and unavoidable air quality impacts related to regional emissions of NO_X.	Mitigation Measure AQ-1 (Vehicle Emissions) for low-emission construction vehicles	**CEQA**: Significant and unavoidable for Alternatives 1 and 2 after mitigation.
	Would the Project expose sensitive receptors to substantial pollutant concentrations?	**CEQA**: Neither regional nor localized emissions would expose sensitive receptors to substantial pollutant concentrations.	Mitigation Measure AQ-1 (Vehicle Emissions) for low-emission construction vehicles	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	**CEQA**: Construction activities would not generate a substantial source of construction odors or visible dust plumes.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Greenhouse Gas Emissions	Construction effects would relate to the generation of GHG emissions from construction activities, including equipment, worker travel, and construction methods.	**NEPA**: Temporary GHG emissions would be generated to construct an energy-efficient mass transit system that would reduce long-term regional GHG emissions through transportation mode shift.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	**CEQA**: Temporary GHG emissions would be generated to construct an energy-efficient mass transit system that would reduce long-term regional GHG emissions.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG?	**CEQA**: Construction would not interfere with GHG reduction plans, policies, or regulations.	None required	**CEQA**: Less than significant for all Build Alternatives.
Noise and Vibration	Temporary construction impacts could include measurable annoyance and stress due to construction noise, as well as vibration damage and annoyance.	**NEPA**: Construction noise levels could exceed impact criteria. Construction noise could increase community annoyance and potentially stress and the potential for stress-related diseases at affected sensitive uses. Construction vibration could cause less than significant short-term annoyance. Vibration is unlikely to result in building damage.	Mitigation Measures NOI-8 (Noise Control Plan) and VIB-3 through VIB-7, which includes a vibration control plan, minimizing the use of impact devices, drilling for building foundations, construction vibration limits, and construction monitoring	**NEPA**: Adverse noise effect for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established by FTA or in the local general plans or noise ordinances?	**CEQA**: Construction would result in temporary and periodic increases in ambient noise levels that would exceed FTA criteria, and, where applicable, the standards established by the local noise ordinances	Mitigation Measure NOI-8 (Noise Control Plan)	**CEQA**: Significant and unavoidable for all Build Alternatives after mitigation.
	Would the Project result in generation of excessive ground-borne vibration or groundborne noise levels?	**CEQA**: Vibration is unlikely to result in building damage.	Mitigation Measures VIB-3 through VIB-7, which includes a vibration control plan, minimizing the use of impact devices, drilling for building foundations, construction vibration limits, and construction monitoring	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?	**CEQA**: No public airports or private airstrips are located within 2 miles of the project area.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Ecosystems/ Biological Resources	Construction could affect bats, nesting birds, jurisdictional waters, and protected trees.	**NEPA**: The Build Alternatives could adversely impact maternal roosting bats and their young and nesting birds. Alternatives 1, 2, and 3 would cross three jurisdictional resources, whereas Alternative 4 would only cross the San Gabriel River. The piers and debris walls related to construction would be permanent fill impacts to jurisdictional water resources. An estimated 110 trees could be affected by Alternatives 1 and 2; 85 trees could be affected by Alternative 3; and 75 trees could be affected by Alternative 4.	Mitigation Measures BIO-1 (Special-Status Bats), BIO-2 (Nesting Birds), BIO-3 (Jurisdictional Resources), and BIO-4 (Protected Trees)	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?	**CEQA**: Impacts to roosting western mastiff bats and nesting birds may occur during project construction.	Mitigation Measures BIO-1 (Special-Status Bats) and BIO-2 (Nesting Birds)	**CEQA**: Less than significant for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?	**CEQA**: The Project is located in a highly developed/urban area, and no quality habitat that would support native riparian plant or wildlife species is present. Impacts to sensitive natural communities would not occur.	None required	**CEQA**: No impact for all Build Alternatives.
	Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	**CEQA**: Construction would include crossings of jurisdictional waters and would require filling the following areas of jurisdictional waters (acres): Alternative 1 0.12 Alternative 2 0.12 Alternative 3 0.12 Alternative 4 0.02 The design and MSF options would not change these values.	Mitigation Measure BIO-3 (Jurisdictional Resources)	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	**CEQA**: The Build Alternatives would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	**CEQA**: Protected street trees in the Cities of Los Angeles, Huntington Park, Bell, South Gate, Downey, Bellflower, and Cerritos are present within the Affected Area. Construction could require pruning or removal of street trees.	Mitigation Measure BIO-4 (Protected Trees)	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	**CEQA**: The Project is not located in an area with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved Habitat Conservation Plan.	None required	**CEQA**: No impact for all Build Alternatives.
Geotechnical, Subsurface, and Seismic	Construction could affect naturally occurring gas and unconsolidated/saturated alluvial soils.	**NEPA**: Hazardous subsurface gases are present in the Affected Area of Alternatives 1 and 2. There is moderate-to-high potential to encounter naturally occurring oil and/or gas during tunneling or deep excavation for Alternatives 1 and 2. Construction of the Build Alternatives could result in an adverse effect related to unconsolidated/ saturated alluvial soils, if construction would cause settlement resulting in distress to existing adjacent improvements. Construction of Alternatives 1 and 2 would include tunnel boring in alluvial soils, which may result in running or flowing ground, resulting in ground loss.	Mitigation Measure GEO-5 (Gas Monitoring [Construction])	**NEPA**: No adverse effect for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	**CEQA**: Construction would not have a significant impact on the faults in the Affected Area.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?	**CEQA**: Construction would not have a significant impact on the seismic potential in the Affected Area.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	**CEQA**: Construction would not have a significant impact on the geologic environment in the Affected Area.	None required	**CEQA**: less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?	**CEQA**: Construction would not have a significant impact on the unconsolidated/saturated alluvial soils in the Affected Area.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project result in substantial soil erosion or the loss of topsoil?	**CEQA**: Construction would occur in an urban setting and the topsoil layer in most of the Affected Area has been disturbed or concealed by previous human activities.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	**CEQA**: Construction would not exacerbate existing geologic conditions related to potential on- or off-site lateral spreading, subsidence, liquefaction or collapse, or seismic-related ground failure, including liquefaction.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	**CEQA**: Construction would not have a significant impact on the expansive potential of soils in the Affected Area.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	**CEQA**: Construction would occur within highly urbanized areas served by existing municipal sewage systems.	None required	**CEQA**: No impact for all Build Alternatives.
Hazards and Hazardous Materials	Construction could affect known, potential, and historical concern sites; landfills; groundwater contamination; hazardous materials; oil and gas wells; and oil and gas fields.	**NEPA**: There are 619 known, potential, or historical environmental concern sites in the Affected Area of Alternative 1, 634 in Alternative 2, 298 in Alternative 3, and 79 in Alternative 4. LBP, asbestos/ACM, and PCBs would likely be encountered during demolition. The Build Alternatives may affect soil and/or groundwater by common railroad corridor contaminants and the relocation or disturbance of hazardous material pipelines. The disturbance of historical agricultural locations may also result in adverse effects related to pesticides, arsenic, and lead. Three abandoned oil and gas wells are known to be located within 200 feet of Alternatives 1 and 2, and one within 200 feet of Alternative 3. Oil and gas wells, fields, and hazardous subsurface gases may be present in the vicinity of Alternatives 1 and 2 underground tunnels and stations, and adverse effects could occur.	Mitigation Measures HAZ-1 (Oil and Gas Wells in Tunnel Areas), GEO-2 (Structural Design), and GEO-5 (Gas Monitoring [Construction])	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	**CEQA**: Hazardous materials would be managed appropriately. Ventilation of subsurface gases would require additional controls. Construction of Alternatives 1 and 2 could expose the public and the environment to subsurface gas.	Mitigation Measures HAZ-1 (Oil and Gas Wells in Tunnel Areas), GEO-2 (Structural Design), and GEO-5 (Gas Monitoring [Construction])	**CEQA**: Less than significant for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	**CEQA**: Construction teams may use hazardous materials such as fuels, paints and coatings, solvents, and welding materials during construction. For Alternatives 1 and 2, an accidental release of hazardous subsurface gases could occur from within the tunnel areas.	Mitigation Measures HAZ-1 (Oil and Gas Wells in Tunnel Areas), GEO-2 (Structural Design), and GEO-5 (Gas Monitoring [Construction])	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	**CEQA**: Construction would not require emitting hazardous materials or handling of hazardous or acutely hazardous materials, substances, or wastes at greater than regulated quantities within 0.25 mile of an existing or proposed school.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	**CEQA**: Potential impacts from construction with regard to environmental concern sites include the potential exposure of construction workers or members of the public to chemical compounds in soils, soil gases, and groundwater. Impacts would be less than significant with the appropriate management of hazardous materials, affected groundwater, and contaminated soil during construction.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	For a Project located within an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	**CEQA**: No airports are located within 2 miles of the Build Alternatives.	None required	**CEQA**: No Impact for all Build Alternatives.
	Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	**CEQA**: Construction-related impacts on emergency response plans or emergency evacuation plans could be caused by temporary construction activities.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	**CEQA**: No wildlands are located in the vicinity of the Build Alternatives.	None required	**CEQA**: No Impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Water Resources	Construction activities could adversely affect hydrology and surface water quality, floodplains, and groundwater.	**NEPA**: Construction activities could degrade water quality by increasing the risk of discharge of contaminants to surface water, and could adversely affect groundwater by dewatering or exposure to contamination. Alternatives 1, 2, and 3 would cross three floodplains, whereas Alternative 4 would only cross the San Gabriel River. Construction within the rivers could result in potential impacts. Implementation of the project design features and best practices would minimize potential impacts, and no adverse effect would occur.	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	**CEQA**: Construction would involve ground disturbance that would expose bare soils to stormwater and could lead to erosion and sedimentation. Construction activities could result in temporary impacts to water quality. Compliance with permits would be mandatory.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	**CEQA**: Dewatering of the construction site, if needed, would be subject to the requirements of the Construction Dewatering Permit and other applicable permits.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on-site or off-site?	**CEQA**: Construction may temporarily increase the impervious area within the Affected Area.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	**CEQA**: Construction may temporarily increase the impervious area within the Affected Area. Construction would implement a SWPPP that complies with the CGP.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	**CEQA**: Construction may temporarily increase the impervious area within the Affected Area. Construction would implement a SWPPP that complies with the CGP.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through addition of impervious surfaces, in a manner which would impede or redirect flood flows?	**CEQA**: Construction may temporarily increase the impervious area within the Affected Area. Construction would implement a SWPPP that complies with the CGP.	None required	**CEQA**: Less than significant for all Build Alternatives.
	In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to project inundation?	**CEQA**: Construction activities would not release pollutants due to project inundation. Construction would be located more than 20 miles from the ocean and, therefore, would not be within areas potentially affected by seiches or tsunamis.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	**CEQA**: Construction may temporarily increase the impervious area around the Project. Construction would implement a SWPPP that complies with the CGP.	None required	**CEQA**: Less than significant for all Build Alternatives.
Energy	Construction effects relate to energy consumption associated with construction activities.	**NEPA**: Construction would consume energy varying by alternative (MMBTU/year): Alternative 1 1,472,110 Alternative 2 1,501,546 Alternative 3 1,045,014 Alternative 4 862,469 Design Option 1 (MWD)[1] 1,503,815 Design Option 2 (Add Little Tokyo)[1] 1,508,077	None required	**NEPA**: No adverse effect for all Build Alternatives.
	Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	**CEQA**: Construction would not require new or expanded sources of energy or infrastructure to meet energy demands and would not result in the wasteful or inefficient use of energy.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	**CEQA**: Construction would comply with state and local plans for energy efficiency in construction activities.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	**CEQA**: Construction would not require new or relocated distribution infrastructure such as transmission lines from power facilities and transformers.	None required	**CEQA**: Less than significant for all Build Alternatives.
Electromagnetic Fields	Construction effects would relate to electromagnetic field levels generated by construction activities.	**NEPA/CEQA**: Construction activities would generate EMF levels similar to household appliances and would not cause adverse/significant levels of EMF.	None required	**NEPA/CEQA**: No adverse effect/Less than significant for all Build Alternatives.
Historic, Archaeological, and Paleontological Resources	Construction effects would relate to impacts to built environment historic properties.	**NEPA**: Construction would not significantly alter historic properties in the existing urban environment. The introduction of temporary construction-related visual elements to historic properties or their vicinity would not alter any of the characteristics of historic properties in the APE.	None required	**NEPA**: No adverse effect for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Construction effects would relate to impacts to archaeological historic properties.	**NEPA:** Construction would involve ground disturbance with the potential to alter buried archaeological deposits associated with known and unknown archaeological historic properties in the APE. Unanticipated archaeological historic properties may be encountered during ground-disturbing activities associated with construction of the Project. Direct alteration of known or unanticipated archaeological historic properties would represent an adverse effect.	Mitigation Measures CR-1 (Development of Cultural Mitigation and Monitoring Program), CR-2 (Treatment of Known Significant Archaeological Resources), CR-3 (Archaeological Worker Environmental Awareness Program), CR-4 (Archaeological Monitoring), and CR-5 (Treatment of Unanticipated Discoveries)	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	Construction effects would relate to impacts to paleontological resources.	**NEPA:** Construction would involve ground disturbance with the potential to discover paleontological resources. An adverse effect could occur if construction of the Build Alternatives results in the disturbance or destruction of paleontological resources.	Mitigation Measure PR-1, which includes a paleontological resources mitigation and monitoring program, a worker environmental awareness program, construction monitoring, and the preparation and curation of recovered fossils, would effectively reduce the Project's adverse effects to these resources.	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	Would the Project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	**CEQA**: The construction of the Build Alternatives would not physically permanently alter any of the built environment historical resources in the APE.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?	**CEQA**: Construction of the Build Alternatives would involve substantial ground disturbance with the potential to physically impact known and unknown archaeological resources within the direct APE. Five archaeological resources are documented in the direct APE for Alternative 1 and one resource for Alternatives 2 and 3.	Mitigation Measures CR-1 through CR-5, which includes the development of a cultural resource mitigation and monitoring program, treatment of known significant archaeological resources, a worker environmental awareness program, archaeological monitoring, and treatment of unanticipated discoveries.	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?	**CEQA**: Construction activities have the potential to physically alter, remove, or destroy buried human remains that may extend into the direct APE. One known prehistoric Native American cemetery was documented in the direct APE of Alternative 1. The Build Alternatives would adhere to existing state regulations concerning the discovery of human remains.	None required	**CEQA**: Less than significant for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	**CEQA**: Construction impacts to paleontological resources would be greatest for activities such as grading, excavation, trenching, and wide-diameter auguring that require displacement.	Mitigation Measure PR-1, which includes a paleontological resources mitigation and monitoring program, a worker environmental awareness program, construction monitoring, and the preparation and curation of recovered fossils, would effectively reduce the Project's significant impacts to these resources.	**CEQA**: Less than significant for all Build Alternatives after mitigation.
Tribal Cultural Resources	Effects would relate to impacts to known traditional cultural properties during construction.	**NEPA**: No traditional cultural properties have been identified in the Affected Area for traditional cultural properties for the Project. Therefore, construction would not result in effects to known traditional cultural properties.	Mitigation Measures TCR-1 (Native American Monitoring), TCR-2 (Unanticipated Discovery of Tribal Cultural Resources), CR-1 (Development of a Cultural Resource Mitigation and Monitoring Program), and CR-2 (Treatment of Known Significant Archaeological Resources)	**NEPA**: No adverse effect for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a) Listed or eligible for listing in the California Register of Historical Resources, or a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	**CEQA**: One presumed tribal cultural resource has been identified in the Affected Area for tribal cultural resources for Alternative 1 and Design Option 1. Construction of Alternative 1 or Design Option 1 could impact this resource. No other resources have been identified. No tribal cultural resource has been identified in the Affected Area for tribal cultural resources for Alternatives 2, 3, or 4, Design Option 2, or the Paramount or Bellflower MSF site options. Construction of these alternatives, design options, and MSF site options would not result in significant impacts to known tribal cultural resources.	Mitigation Measures TCR-1 (Native American Monitoring), TCR-2 (Unanticipated Discovery of Tribal Cultural Resources), CR-1 (Development of Cultural Resource Mitigation and Monitoring Program), and CR-2 (Treatment of Known Significant Archaeological Resources)	**CEQA**: Less than significant for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subsection (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			
Parklands and Community Facilities	Construction activities would result in impacts to access and parking for parks and community facilities.	**NEPA**: Construction activities of the Build Alternatives would not permanently affect existing buildings or permanently disrupt parklands, recreation facilities, bike facilities, and community facilities, and no adverse effect would occur. Construction activities would not cause indirect air quality, noise, or vibration impacts to parklands or recreation facilities. Construction-related traffic, detours, lane closures, sidewalk detours, and bike facility detours could affect access and parking for parklands, recreational facilities, and community facilities, and could result in adverse effects.	Mitigation Measure COM-1 (Construction Outreach Plan)	**NEPA**: No adverse effect for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable standards for any park or recreational facility?	**CEQA**: Pedestrian and bicycle access routes in the construction area would be temporarily disrupted during construction. In addition, off-street parking that may be used by parkland, recreational facility, bike facility, and community facility visitors may be temporarily removed for the duration of construction.	Mitigation Measure COM-1 (Construction Outreach Plan)	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	**CEQA**: Construction would not generate permanent residences that would increase the use of existing neighborhood and regional parks or other recreational facilities resulting in accelerated physical deterioration of the facilities.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	**CEQA**: Construction would be temporary and would not include the construction of recreational facilities or require the expansion of existing recreational facilities.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Economic and Fiscal Impacts	Construction effects would relate to regional economic construction impacts and localized project impacts.	**NEPA**: Construction would represent a substantial capital investment in the regional economy that would increase employment, earnings, and economic output during the construction period. Construction activities would likely result in access modifications, and potential transportation delays that would result in temporary impacts to the surrounding communities.	Mitigation Measures COM-1 (Construction Outreach Plan) and TRA-23 (Loss of Parking [Construction])	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	Would the Project result in substantial impacts to regional mobility and connectivity?	**CEQA**: Construction activities would likely result in access modifications and potential transportation delays that would result in temporary impacts to the surrounding communities.	Mitigation Measures COM-1 (Construction Outreach Plan) and TRA-23 (Loss of Parking [Construction])	**CEQA**: Less than significant for all Build Alternatives after mitigation.
	Would the Project result in substantial construction-related impacts to businesses and residences that would result in physical deterioration of the existing environment?	**CEQA**: While the construction spending effects would be a positive for the overall regional economy, construction of the Build Alternatives would have potential impacts on businesses and residences near active construction areas. Construction would require additional right-of-way for project alignments, construction staging areas, tunnel portals, and parking areas, resulting in displacements of businesses and residences.	Mitigation Measures COM-1 (Construction Outreach Plan) and TRA-23 (Loss of Parking [Construction])	**CEQA**: Less than significant for all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Safety and Security	Construction effects would relate to construction-related activities and conditions that could impact pedestrian, bicyclist, and motorist safety, emergency response services, and security and prevention of crime.	**NEPA**: The Build Alternatives would implement advance notices, signage, barriers, and fencing to direct pedestrian, bicyclist, and motorist travel, and reduce the potential for temporary safety impacts. However, these methods may interfere with or potentially block Safe Routes to School, and an adverse effect could occur. The Build Alternatives would not have adverse impacts to emergency response services. Construction sites would include security features such as CCTV, on-site guards and security teams, and perimeter fencing to reduce potential impacts related to security and crime	Mitigation Measures COM-1 (Construction Outreach Plan), SAF-2 (School District Coordination), and SAF-3 (Construction Site Measures)	**NEPA**: No adverse effect for all Build Alternatives after mitigation.
	Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	**CEQA**: Construction-related impacts on emergency response plans or emergency evacuation plans could be caused by temporary construction activities.	None required	**CEQA**: Less than significant for all Build Alternatives.
	Would the Project result in substantial adverse physical impacts associated with the provisions of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain response times or other performance objectives for fire and police protection services?	**CEQA**: There would be no construction-related activities associated with new or physically altered government facilities to maintain response times or other performance objectives for fire and police protection services.	None required	**CEQA**: No impact for all Build Alternatives.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
	Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	**CEQA**: Temporary construction-related activities and conditions that could impact pedestrian, bicyclist, and motorist safety.	Mitigation Measures COM-1 (Construction Outreach Plan), SAF-2 (School District Coordination), and SAF-3 (Construction Site Measures)	**CEQA**: Less than significant for all Build Alternatives after mitigation.

Source: Compiled on behalf of Metro in 2021

Notes: [1] Data totals for Design Options 1 and 2 include the Alternative 1 alignment with the specified Design Option.

ACM = asbestos-containing materials; APE = Area of Potential Effect; CCTV= closed-circuit television; CEQA = California Environmental Quality Act; CGP = Construction General Permit; EMF = electromagnetic fields; FTA = Federal Transit Administration; GHG = greenhouse gas; LBP = lead-based paint; MMBTU = million British thermal units; MSF = maintenance and storage facility; MWD = Metropolitan Water District; NEPA = National Environmental Policy Act; NOx = nitrogen oxides; PCB = polychlorinated biphenyls; ROW = right-of-way; SCAQMD = South Coast Air Quality Management District; SWPPP = Stormwater Pollution Prevention Plan

Table S.5. Growth-Inducing, Cumulative, and Environmental Justice Impacts and Mitigation Measures

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Growth-Inducing	Could the Project foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.	**NEPA/CEQA**: Population, housing, and employment growth is anticipated along the project alignment with population and housing growth being closely related. The Build Alternatives are a transit infrastructure project proposed to serve forecasted population, housing, and employment growth. They would not result in growth-inducing impacts or unplanned growth beyond growth already anticipated.	None required	**NEPA/CEQA**: No adverse effect for all Build Alternatives after mitigation.
Cumulative Impacts	In combination with identified past, present, and reasonably foreseeable future projects would the Project have significant impacts?	**NEPA/CEQA**: The Build Alternatives could have cumulative effects to land use; communities and neighborhoods; acquisitions and displacements; visual quality and aesthetics; air quality; GHG; noise and vibration; ecosystems and biological resources; geotechnical, subsurface, and seismic hazards; hazards and hazardous materials; water resources; energy; historic, archaeological, and paleontological resources; tribal cultural resources; parklands and community facilities; safety and security; economic and fiscal; and environmental justice.	Mitigation Measures LU-1 (Consistency with Bike Plans), VA-3 (Landscaping at LAUS), VA-4 (Construction Screening), VA-5 (Construction Lighting); NOI-1 through NOI-7, which include soundwalls, low-impact frogs, wheel squeal noise monitoring, crossing signal bells, gate-down-bell stop variance, and TPSS noise reduction; GEO-1 through GEO-5, which include hazardous gas detection, structural design, gas monitoring, and a tunnel advisory panel; HAZ-1 (Oil and Gas Wells in Tunnel Areas), SAF-1 (Encroachment Detection), SAF-2 (School District Coordination), SAF-3 (Construction Site Measures), AQ-1 (Vehicle Emissions); VIB-3	**NEPA/CEQA**: During operation. transportation, land use, noise, vibration, parklands, and community facilities would result in significant cumulative impacts that would be cumulatively considerable. During construction, transportation, air quality (NO_X emissions for Alternatives 1 and 2 only), noise, and economic and fiscal (a beneficial cumulative effect) would result in significant cumulative construction impacts that would be cumulatively considerable.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
			through VIB-7, which includes a vibration control plan, minimizing the use of impact devices, drilling for building foundations, construction vibration limits, and construction monitoring; BIO-1 through BIO-4, which include special status bats, nesting birds, jurisdictional resources, and protected trees; PR-1, which includes a paleontological resources mitigation and monitoring program, a worker environmental awareness program, construction monitoring, and the preparation and curation of recovered fossils; CR-1 through CR-6, which include the development of a cultural resource mitigation and monitoring program, treatment of known significant archaeological resources, a worker environmental awareness program, archaeological monitoring, treatment of unanticipated discoveries, and historic design review; TCR-1 (Native American Monitoring) and TCR-2 (Unanticipated Discovery of Tribal Cultural Resources), COM-1 (Construction Outreach Plan), and TRA-23 (Loss of Parking [Construction])	

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
Environmental Justice	What is the potential for disproportionately high and adverse effects on environmental justice communities?	**NEPA**: During operation, environmental justice communities would experience adverse effects with regard to traffic operations and parking; land use consistency; parklands and communities; displacement and acquisition; visual quality; and noise and vibration levels. During construction, environmental justice communities would experience adverse effects with regard to air quality (Alternatives 1 and 2), transportation, land use, displacement and acquisition, communities and neighborhoods, noise and vibration, ecosystems and biological resources, parkland and community facilities, communities and neighborhoods, and safety and security. Adverse effects with regard to intersection improvements and traffic operations on the environmental justice community of Huntington Park would be appreciably more severe or greater in magnitude than the other affected communities along the project corridor based on the concentration on affected intersections. This would result in a disproportionately high and adverse effect to the environmental justice community of Huntington Park.	Mitigation Measures TRA-1 through TRA-19, which are specific intersection improvements, TRA-20 (Transportation Management Plan(s), TRA-21 (Parking Monitoring and Community Outreach), TRA-22 (Parking Mitigation Program [Permanent]), and TRA-23 (Loss of Parking [Construction]), LU-1 (Consistency with Bike Plans); VA-1 (Screening at Somerset Boulevard) and VA-2 (Relocation of "Belle"); NOI-1 through NOI-8, which include soundwalls, low-impact frogs, wheel squeal noise monitoring, crossing signal bells, gate-down-bell stop variance, TPSS noise reduction, and a noise control plan; VIB-1 through VIB-7, which include a ballast mat or resilient rail fasteners, low-impact frogs, a vibration control plan, minimizing the use of impact devices, drilling for building foundations, construction vibration limits, and construction monitoring; AQ-1 (Vehicle Emissions), COM-1 (Construction Outreach Plan)	**NEPA**: A disproportionately high and adverse effect would occur in the environmental justice community of Huntington Park with regard to intersection improvements and traffic operations after the implementation of Mitigation Measures TRA-1 through TRA-20 for Alternatives 1, 2, 3, Design Options 1, and 2. Mitigation Measures TRA-1 through TRA-20 would be implemented and sufficient to reduce adverse effects to the extent feasible. Nonetheless, adverse effects would remain. A disproportionately high and adverse effect would not occur to the other environmental justice communities under all Build Alternatives after mitigation.

	Description of Identified Impacts	Impact Before Mitigation	Mitigation Measures	Impact Remaining After Mitigation
		Adverse effects on the other environmental justice communities would not be appreciably more severe or greater in magnitude than other affected communities along the project corridor, all of which are environmental justice communities. The Project would not cause a disproportionately high and adverse effect on the other environmental justice communities. Where adverse effects would occur, mitigation measures would be provided and implemented equally throughout all of the environmental justice communities in the Affected Area.		

Source: Compiled on behalf of Metro in 2021
Notes: CEQA = California Environmental Quality Act; GHG = greenhouse gas; NEPA = National Environmental Policy Act

S.5 Section 4(f) Evaluation

Section 4(f) of the U.S. Department of Transportation Act of 1966 provides special protection of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance (as determined by the official(s) with jurisdiction over the park, area, refuge, or site) (49 United States Code Section 303). The FTA may not approve the non-*de minimis* use of Section 4(f) property unless the FTA determines that (1) there is no prudent or feasible alternative, and (2) the project includes all possible planning to minimize harm to these resources resulting from such use (23 Code of Federal Regulations (CFR) 774.3).

Prior to making Section 4(f) approvals under Section 774.3(a), the Section 4(f) evaluation shall be provided for coordination and comment to the official(s) with jurisdiction over the Section 4(f) resource and to the Department of the Interior, and as appropriate to the Department of Agriculture and the Department of Housing and Urban Development (23 CFR Section 774.5).

Pending completion of consultation and concurrence of the officials with jurisdiction, the FTA has made a preliminary determination that the Project would have a *de minimis* impact on four historic sites under Alternative 1, five historic sites under Alternative 2, three historic sites under Alternative 3, and one historic site under Alternative 4 that qualify for protection under Section 4(f). All Build Alternatives would have a *de minimis* impact on one park that qualifies for protection under Section 4(f). The FTA also has made a preliminary determination that the temporary occupancy exception to Section 4(f) use would apply to 11 historic sites under Alternative 1, 21 historic sites under Alternative 2, and 1 historic site under Alternative 3. The temporary occupancy exception would also apply to 3 recreational trails under Alternatives 1, 2, and 3. Under Alternative 4, the temporary occupancy exception would not apply to any historic sites, but would apply to one recreational trail. This determination for the Project is pending concurrence from the agencies with jurisdiction that the conditions for application of the temporary occupancy exception are met.

The Project would have no use of other Section 4(f) properties. There would be no constructive use of any Section 4(f) properties (Metro 2021l). FTA has preliminarily determined that the Project would satisfy the requirements of Section 4(f) because the only impacts to Section 4(f) properties would be *de minimis* or meet the requirements of the temporary occupancy exception.

S.6 Evaluation of Alternatives

Both NEPA and CEQA recommend identifying the preferred alternative in the Draft EIS/EIR. In addition to considering the effectiveness in meeting the Purpose and Need, goals and objectives, and environmental impacts and benefits, the financial capacity to construct, operate, and maintain the Project as well as strategies to fund the Project were primary considerations in determining the Staff Preferred Alternative. Alternative 3 is the Staff Preferred Alternative.

All of the Build Alternatives would achieve the four major elements of the Project's Purpose by establishing reliable transit service, accommodating future travel demand, improving access, and addressing mobility and access constraints faced by transit-dependent communities in the corridor (Table S.6). Total capital costs for Alternatives 1 and 2 are significantly higher ($8.1 and $8.8 billion, respectively) than Alternatives 3 and 4 ($4.4 and $1.9 billion, respectively) due to the length of the alignment and the resulting number of stations.

Table S.6. Alternatives Benefit Evaluation

Environmental and Social Benefits	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Vehicle miles traveled reduction (existing plus project compared to existing conditions)	216,100 (-0.05%)	215,000 (-0.05%)	71,800 (-0.02%)	36,300 (-0.01%)
Average weekday daily boardings (2042)	60,839	82,826	30,964	11,119
Emissions and greenhouse gas reduction	Greatest reduction	Greatest reduction	Moderate reduction	Lower reduction
Community benefits (number of cities and the number of communities in the City of Los Angeles served within one-quarter mile of stations[1])	12 cities (3 communities in City of Los Angeles)	12 cities (3 communities in City of Los Angeles)	12 cities (1 community in City of Los Angeles)	5 cities (0 communities in City of Los Angeles)
Daily new transit trips (average number of trips per mile)	952	1,048	622	720
User benefit hours[2]	15,400	19,700	8,400	4,000
Economic benefits[3] (jobs gained in the region)	81,700 – 89,800 construction jobs 245 permanent jobs	88,100 – 89,800 construction jobs 282 permanent jobs	44,000 – 45,700 construction jobs 189 permanent jobs	22,400 – 24,000 construction jobs 113 permanent jobs
Economic benefits (2020$) (generated/earned in economic activity per year in the region)	$6.6 million	$7.6 million	$5.1 million	$3.0 million
Regional mobility and connectivity[4]	High	High	Medium	Low
Approximate residential population within one-half mile of stations[5]	236,000	260,000	203,000	90,400
Population growth (percent change from 2017 to 2042 within one-quarter mile of alignment)	60%	75%	59%	62%
Employment growth (percent change from 2017 to 2042 within one-quarter mile of alignment)	32%	25%	22%	20%

Source: Prepared for Metro in 2021

Notes: [1] For purposes of this analysis, the City of Los Angeles is split into Central City, Central City North, and Southeast Los Angeles Community Plan Areas. These are considered established communities within the Affected Area. As such, the number of communities in the City of Los Angeles is described in the table.

[2] User benefit hours presented in total daily hours. This value is based on travel time savings and cost savings that new riders and existing riders would experience.

[3] The number presented is person-year jobs (one job for one person for one year).

[4] Based on number of proposed stations that would improve local and regional access, mobility, and connectivity to transit.

[5] The residential populations identified are located within one-half mile of the station areas for each Build Alternative.

While each of the Build Alternatives would result in varying levels of impacts and benefits, Alternative 3 would have an overall environmental advantage compared to the other Build Alternatives. Alternative 3 would have fewer permanent acquisitions, business displacements, noise and vibration impacts, and be in proximity to fewer hazardous materials sites compared to Alternatives 1 and 2. Construction of Alternative 3 would affect access to fewer community facilities, require fewer construction laydown areas, and would not result in exceedances in daily regional emissions compared to Alternatives 1 and 2. Due to the lack of connectivity and limited benefits achieved with four stations, Alternative 4 would provide a lower level of environmental benefits to the region when compared to the other Build Alternatives. Overall, the Bellflower MSF site would require fewer acquisitions, displace fewer businesses, and have lower capital cost compared to the Paramount MSF site.

Alternative 3 is designated as the Staff Preferred Alternative. Alternative 3 is identified as the environmentally superior alternative pursuant to CEQA requirements.

S.7 Public Outreach, Agency Consultation, and Coordination

Metro initiated a comprehensive outreach program for the Project beginning in 2017. Metro has continued to keep elected officials, agency staff, community stakeholders, and the general public informed on the status of the Project as well as progress of the environmental review process.

The FTA published the Notice of Intent pursuant to NEPA in the *Federal Register* on July 26, 2017. Metro issued a Notice of Preparation pursuant to CEQA on May 25, 2017, with supplemental publications June 14, 2017 and July 11, 2018. Metro used the scoping process to seek agency and public feedback on the scope of the Draft EIS/EIR. Metro hosted one agency scoping meeting and eight public scoping meetings with the option to join a live webcast or access the video recording on the Project's website.

Metro has communicated project information and provided opportunities for public and agency input during preparation of the Draft EIS/EIR. Meetings have been held with participating agencies and interested federal, state, regional, and local agencies in support of the Draft EIS/EIR. Metro conducted an Assembly Bill 52 compliant consultation with California tribes with traditional lands or cultural places in Los Angeles County. The FTA invited the Native American groups to participate in the Section 106 consultation process and included information on the identification of prehistoric sites, and sacred and/or traditional cultural properties in the Area of Potential Effect). Metro sent consultation letters to local government, local historic preservation advocacy and history advocacy groups, and historical societies and organizations. The Final Cultural Resources Survey Report—Rev 1 (Metro 2020d) was submitted to the State Historic Preservation Office (SHPO) on March 30, 2020, requesting concurrence on the eligibility determinations. No comments or objections were received from SHPO.

Following the release of this Draft EIS/EIR, a 45-day public comment period will be held to promote review of the Draft EIS/EIR and gather public comments. Metro will also host public hearings throughout the project area to present findings of the Draft EIS/EIR and solicit public comments on the document.

S.8 Areas of Controversy and Issues to Be Resolved

S.8.1 Areas of Controversy

The following areas of controversy or concerns were identified based on public comments submitted during the scoping period and through ongoing stakeholder coordination:

- Construction impacts within the Little Tokyo community
- Alignment configuration (at-grade, aerial, or underground) at intersections
- Alignment configuration within the City of Cerritos
- Elimination of an alignment with a northern terminus at Pershing Square
- Partial acquisition of residential properties
- Safety and security on the alignment and at stations
- Noise and vibration impacts

S.8.2 Issues to be Resolved

The following issues will be resolved as the Project proceeds through the environmental process as well as through ongoing stakeholder coordination:

- Selection of the Locally Preferred Alternative – The Metro Board of Directors will select the Locally Preferred Alternative (LPA) after circulation of the Draft EIS/EIR. Public and agency comments received on the Draft EIS/EIR will be considered as part of the selection process. Currently Alternative 3 is identified as the Staff Preferred Alternative. As part of the Metro Board action, a decision may be made to phase implementation of the LPA. Any such decision would be made in consideration of public comments and funding availability.
- Selection of design options – If Alternative 1 is selected as the LPA, the Metro Board of Directors will also determine whether Design Option 1 (MWD) and/or Design Option 2 (Add Little Tokyo) are included as part of the Project. Public comments received on the Draft EIS/EIR will be considered as part of the selection process.
- Selection of MSF site – Concurrent with selection of the LPA, the Metro Board of Directors will also determine which MSF site option will advance into the Final EIS/EIR. Public comments received on the Draft EIS/EIR will be considered as part of the selection process. Currently, the Bellflower MSF site option is the staff preferred site option.
- Design of at-grade crossings – Metro has begun coordination with the California Public Utilities Commission (CPUC) to determine design requirements where the alignment passes through intersections at grade. Coordination will continue through the environmental clearance and design phases of the Project. Approvals from CPUC will be required.
- Design and construction of the alignment within Union Pacific (UP) right-of-way – Metro has begun coordination with UP for the portion of the Project that would be within UP right-of-way. Coordination has and will continue to focus on design of the light rail transit (LRT) alignment and clearances, relocation of freight tracks, design of the new freight bridge over I-105, track separation between the WSAB LRT tracks and the existing freight tracks, and construction methods and phasing. Approval and/or a permanent easement will be required from UP.
- Mitigation measures – several mitigation measures identified to avoid or minimize adverse and/or significant impacts would be outside Metro's jurisdiction to

implement. These mitigation measures include modifications to travel lanes at intersections for traffic impacts (subject to the jurisdiction in which the intersection is located), modifications to proposed bicycle facilities that conflict with the Project (subject to the jurisdiction where the facility is proposed), relocation of the "Belle" public art statue (subject to the City of Bellflower), and modification to crossing signal bells and gate-down-bell-stop signal variance (subject to CPUC). Coordination has begun with several entities regarding these measures and will continue prior to issuance of the Record of Decision and Notice of Determination for the Project. If the applicable jurisdiction does not approve the measure, then adverse and/or significant impacts would occur as no other mitigation has been identified for these impacts.