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PLANNING AND PROGRAMMING COMMITTEE
NOVEMBER 5, 2014

SUBJECT: EASTSIDE TRANSIT CORRIDOR PHASE 2

ACTION: APPROVE ALIGNMENT RECOMMENDATIONS AND FURTHER TECHNICAL STUDY

RECOMMENDATIONS

A. Approve carrying forward two build alternatives and the associated maintenance yard(s) into further technical study as described below:

1. SR 60 North Side Design Variation (NSDV) (Attachment A) which would extend the existing Metro Gold Line Eastside Extension from the Atlantic/Pomona Station, approximately 6.9 miles to Peck Rd. in the City of South El Monte. The Alternative would operate primarily within the southern portion of the SR 60 Freeway right-of-way (ROW). The NSDV, which would transition to the north side of the SR 60 just west of Greenwood Ave. and back to the south side just west of Paramount Blvd. is selected so as to minimize potential impacts to the OII Superfund site.

   Coordination and refinements to the Alternative would be carried out to address comments received from Cooperating and Public Agencies;

2. Washington Blvd. Alternative (Attachment B) which extends the existing Metro Gold Line Eastside Extension from the Atlantic/Pomona Station, approximately 9.5 miles to Lambert Rd. in the City of Whittier. The Alternative includes two grade separated design variations at Rosemead Blvd and at San Gabriel River/I-605/Pioneer Blvd. in order to minimize potential traffic impacts and physical constraints, respectively.

   Refine the Alternative to identify an alternate north-south connection to Washington Blvd.

   Coordination and refinements to the Alternative would be carried out to address comments received from Cooperating Agencies, Public Agencies and stakeholder concerns;

3. Analyze environmental impacts and performance with both Alternatives in operation, including conducting cost containment studies.

B. Eliminate from further study as described below:

1. State Route 60 (SR 60) Baseline Alternative (Attachment A) from further study due to potential Environmental impacts and concerns expressed by the United States Environmental Protection Agency (EPA);

2. Washington Blvd. Alternative Aerial configuration on Garfield Ave. between Via Campo and Whittier Blvd. (Attachment B) due to Community and Neighborhood, Visual and Aesthetic impacts and stakeholder concern.

C. Receive the Eastside Transit Corridor Phase 2 (Eastside Phase 2) Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR). Attachment C contains the Executive Summary. The full Draft EIS/EIR is available upon request.

ISSUE

The adopted Long Range Transportation Plan (LRTP) includes the Eastside Phase 2 project in the Constrained Element with funding becoming available starting in 2026, and also identifies a second Eastside Phase 2 project for the corridor not selected in the Strategic Unfunded Plan, Tier 1. Measure R allocates $1.27 billion (2014 dollars) to the Eastside Phase 2 project.

The Draft EIS/EIR contains the technical analysis to inform the public and decision makers of the potential adverse and beneficial impacts of the alternatives. Coordination efforts with the Federal Transit Administration (FTA) and the project's three Cooperating Agencies, EPA, United States Army Corps of Engineers (USACE) and Caltrans, helped inform the development of the Draft EIS/EIR. In addition, a strong public participation process supported the technical analysis. While the Draft EIS/EIR demonstrates a need for both alternatives and community support for having service to the two subregions was strong, further technical and environmental analysis is warranted in order to provide additional detail that is necessary to address environmental comments received during the public comment period from Cooperating Agencies, Public Agencies and stakeholders. Board approval of conducting further technical studies before entering the Final EIS/EIR is being requested.

DISCUSSION

Per the Draft EIS/EIR, both build alternatives studied would provide environmental and social benefits for the project area and would help address mobility challenges faced by the project area by 2035, including connecting the project area to Metro's regional rail network and providing much needed transportation services.

Comments received from stakeholders and project cities during the public comment period indicated strong support for both alternatives. Comments received from Cooperating and Public Agencies indicated a need to conduct additional technical

studies in order to provide the additional detail that is necessary to address comments provided in their area of expertise and jurisdictional oversight.

SR 60 North Side Design Variation Alternative

The SR 60 NSDV would extend the existing Metro Gold Line Eastside Extension from the Atlantic/Pomona Station, approximately 6.9 miles to Peck Rd. in the City of South El Monte. The alternative is approximately 94% grade separated and would operate primarily within the southern portion of the SR 60 Freeway ROW. The NSDV, would transition to the north side of the SR 60 just west of Greenwood Ave. and back to the south side just west of Paramount Blvd. was analyzed in coordination with the project's three Cooperating Agencies. Potential impacts to the south side of the OII Superfund Site are minimized. This alternative proposes four stations with supporting park and ride lots.

The SR 60 NSDV is estimated to generate approximately 16,700 daily boardings with an estimated travel time of 13 minutes from the Peck Rd. terminus to the existing Metro Gold Line station at Atlantic/Pomona. The capital cost in 2010 dollars is estimated to range between $1.2 and $1.3 billion. Travel time savings are estimated at 21.9 minutes per boarding.

Moving forward into the technical study, the following areas would require continuing resolution and coordination with the following jurisdictions and agencies:

- EPA to further address comments regarding the OII Superfund site;
- USACE in further addressing Executive Orders and Federal Regulations as they relate to the operation of the SR 60 NSDV and location of the proposed Santa Anita Station and supporting park and ride;
- Caltrans to address comments regarding design of SR 60 NSDV;
- Department of Interior and California Department of Fish and Wildlife to address comments related to habitat and wetlands delineation;
- Southern California Edison (SCE);
- City of Monterey Park to address comments regarding visibility.

Washington Blvd Alternative

As studied in the Draft EIS/EIR, the Washington Blvd. Alternative would extend the existing Metro Gold Line Eastside Extension from the existing Atlantic/Pomona station approximately 9.5 miles to Lambert Rd. in the City of Whittier. It includes both at-grade and aerial configurations, beginning at-grade as it departs the Atlantic/Pomona station, transitioning to an aerial configuration running on the south side of SR 60 Freeway ROW to Garfield Ave. it would turn south onto Garfield Ave. remaining in an aerial configuration. The aerial configuration would continue as it turns southeast along Washington Blvd. At Montebello Blvd., the alternative would transition to an at-grade configuration within the center of Washington Blvd to the terminus station at Lambert

Rd., in the City of Whittier. This Alternative proposes six stations with supporting park-and-ride lots at five stations.

Two design variations were studied as part of the Washington Blvd. Alternative. The first is an aerial crossing at Rosemead Blvd. in order to minimize potential traffic impacts at that intersection. The second design variation is an aerial crossing over the San Gabriel River/I-605 freeway and Pioneer Blvd. in order to address potential physical constraints.

As studied in the Draft EIS/EIR, the Washington Blvd Alternative is estimated to generate approximately 19,900 daily boardings. Travel time from the Lambert Rd terminus to the existing Metro Gold Line station at Atlantic/Pomona is estimate to range between 17 and 22 minutes. The capital cost in 2010 dollars is estimated between $1.4 and $1.7 billion. Travel time savings are estimated at 21.3 minutes per project boarding.

Per the Draft EIS/EIR, after implementation of mitigations, the aerial configuration on Garfield Ave. between Via Campo and Whittier Blvd. would have unavoidable adverse effects/ significant impacts. The aerial configuration would require removal of community resources, thereby altering the social and physical character within the immediate community. Changes in the visual character of Garfield Ave. would also result due to shade and shadow impacts along Garfield Ave. between Via Campo and Whittier Blvd. created by the aerial guideway. In addition, this configuration received strong community opposition. Eliminating the aerial configuration would address the potential environmental impacts and stakeholder concern.

Moving forward into the technical study, the following areas would require continuing resolution and coordination with jurisdictions and agencies:

- EPA to address comments regarding the Omega Superfund site;
- Refine the Washington Blvd Alternative to identify an alternate north south connection to Washington Blvd.

Maintenance Yards

Under the SR 60 NSDV, one potential Maintenance Yard Option has been identified. Referred to as the Mission Junction Yard, this site is approximately 11 acres and is located in the City of Los Angeles, generally bounded by 1-5 to the east, I-10 to the south, the Los Angeles River to the west and the Union Pacific rail line to the north as shown in Attachment A.

In addition to the Mission Junction Yard Option, the Washington Alternative also considers two additional locations (Attachment B). The Commerce Maintenance Yard Option is approximately 12 acres in size and is proposed to be within the City of Commerce, located west of Garfield Ave. in the SCE transmission line corridor.

A third Washington Blvd. Maintenance Yard option is within the City of Santa Fe Springs. This site is approximately nine acres in size and is located south of Washington Blvd. and east of Allport Ave.

In addition to the sites being analyzed, the Eastside Phase 2 project may also consider using the Monrovia facility that is currently under construction as part of the Metro Gold Line to Montclair.

All Maintenance Yard Options would be carried forward for further technical study.

SR 60 NSDV and Washington Blvd Alternatives

The Draft EIS/EIR analyzed each build alternative independent of one another. Given the demonstrated need for transit service in each subregion, strong community support from the subregions for their respective alternative and the identification of two Eastside Phase 2 alternatives in the LRTP, it is worthwhile to study potential impacts, performance and cost of having both alternatives in operation.

Technical work to evaluate how the two alternatives could be operated would allow us to build upon the analysis in the Draft EIS/EIR to identify potential environmental impacts of constructing and operating both alternatives, impacts on ridership, identify potential frequencies and operational configuration. Cost containment strategies, including analyzing a minimum operable segment would also be studied. Analysis carried out through the technical studies would also help inform project phasing within the LRTP reserved amount.

Draft EIS/EIR Environmental Process and Community Participation

The environmental study was initiated in 2007 with the Alternatives Analysis study (AA) wherein 47 alternatives were reviewed. Through technical analysis and community input, the 47 alternatives were narrowed down to four build alternatives with the No Build and the Transportation System Management (TSM). The four build alternatives were carried into an AA Addendum where additional technical screening was carried out. In 2009, the Board authorized staff to carry forward into the Draft EIS/EIR phase the No Build, the TSM and two build alternatives, SR 60 Light Rail Transit (LRT) and Washington Blvd. LRT.

The Draft EIS/EIR phase was initiated in 2010 with the publication of the Notice of Intent (NOI) in the Federal Register and the Notice of Preparation (NOP) being sent to the California State Clearinghouse and Los Angeles County Clerk on January 25, 2010. The 80 day scoping period extended through April 14, 2010, during which time four public scoping and one resource agency meeting were held. Over 300 stakeholders participated in the five meetings. In addition, over 20 briefings with Councils of Governments (COGs), community organizations and city staff took place.

In May, 2014, in anticipation of releasing the Draft EIS/EIR, the Gateway Cities and San Gabriel Valley COGs were updated. Briefings for elected officials and agencies, and eight open houses and city council presentations in the project cities were held. In total more than 330 meetings were held during the Draft EIS/EIR phase with over 2,800 attendees.

The Notice of Availability (NOA), which serves as a notice to the public regarding the availability of the Draft EIS/EIR, was published in the Federal Register and filed with the California State Clearing House and Los Angeles County Clerk's office on August 22, 2014. A 60 day public comment period extended through October 21, 2014. Four public hearings and one agency meeting were held during this time. Open Houses were held prior to the start of each public hearing. The Draft EIS/EIR was made available on Metro's website and library as well as over 15 public locations within the project area. The document was also made available via CD upon request.

Outreach for the public hearings was robust with the NOA being mailed to almost 3,500 project stakeholders and over 22,000 postcards mailed to residents, property and business owners along the proposed corridors. In addition just under 1900 e-mails were sent informing stakeholders of the availability of the Draft EIS/EIR. Other notification methods used included press notices sent to over 50 media outlets; display ads in multiple publications, including Chinese and Spanish language papers; "take-ones" distributed on buses and trains, and delivered to cities hosting the public hearings and other key locations along the two corridors.

More than 525 people attended the four public hearings. Over 1,130 comments were received, including 120 verbal comments taken at the public hearings. Comments from community residents, local businesses and organizations expressed strong support for their respective alternatives with many expressing support for both alternatives. Concerns expressed relate to potential traffic impacts, potential property acquisitions, safety and design. Included within the total count are comments received from almost 40 federal, state, regional and local agencies.

FINANCIAL IMPACT

Impact to the Budget

The Fiscal Year (FY) 15 budget included $350,000 in Traffic Congestion Relief Program (TCRP) funds to carry out work on the Draft EIS/EIR phase. Staff will work with Regional Programming, Budget and Local Programs and the Office of Financial Services to identify a funding source for the required technical studies and will bring back a request to the Board to amend the budget when we return to award the technical study contract modifications.

ALTERNATIVES CONSIDERED

The Board could consider:

1. Choosing not to approve further technical study on both alternatives and instead select one alternative to move forward;

2. Choosing not to approve further technical study on the alternatives and instead select that neither alternative move forward.

These options are not recommended because the technical analysis and community outreach conducted to date reflect that both alternatives meet the project purpose and goals and would address the needs of the project area. A high degree of community support for both alternatives exists.

Moving forward with the technical studies will allow us to conduct technical analysis to address comments received by Cooperating Agencies and Public Agencies, further define project costs, and analyze potential impacts and performance of having both alternatives in operation.

NEXT STEPS

Upon Board approval, a scope of work will be developed for technical work and community facilitation. Staff will return to the Board to request authorization to award the contract modifications and amend the budget.

ATTACHMENTS

A. SR 60 and SR 60 NSDV Map
B. Washington Alternative Map
C. Draft EIS/EIR Executive Summary

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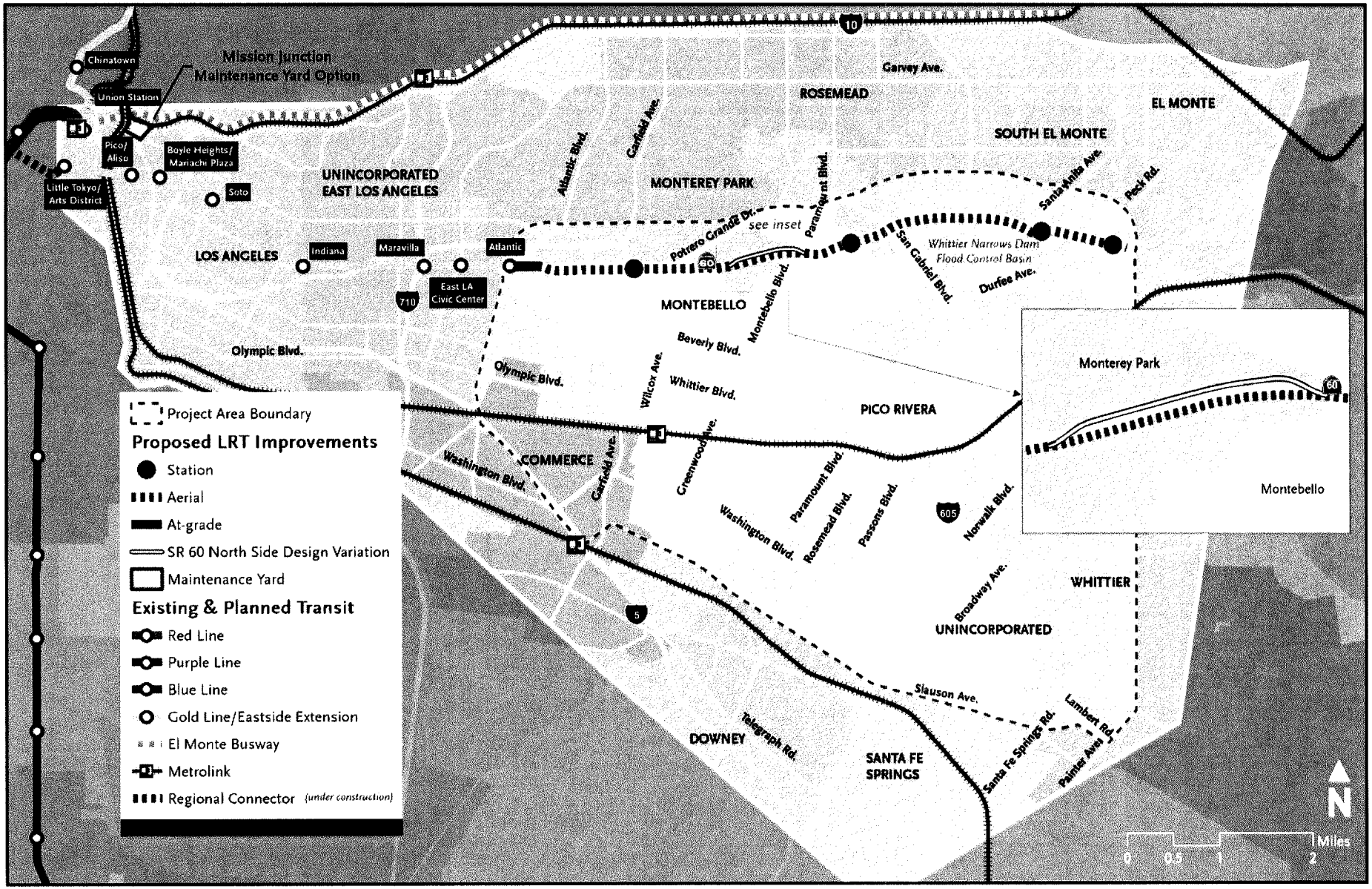
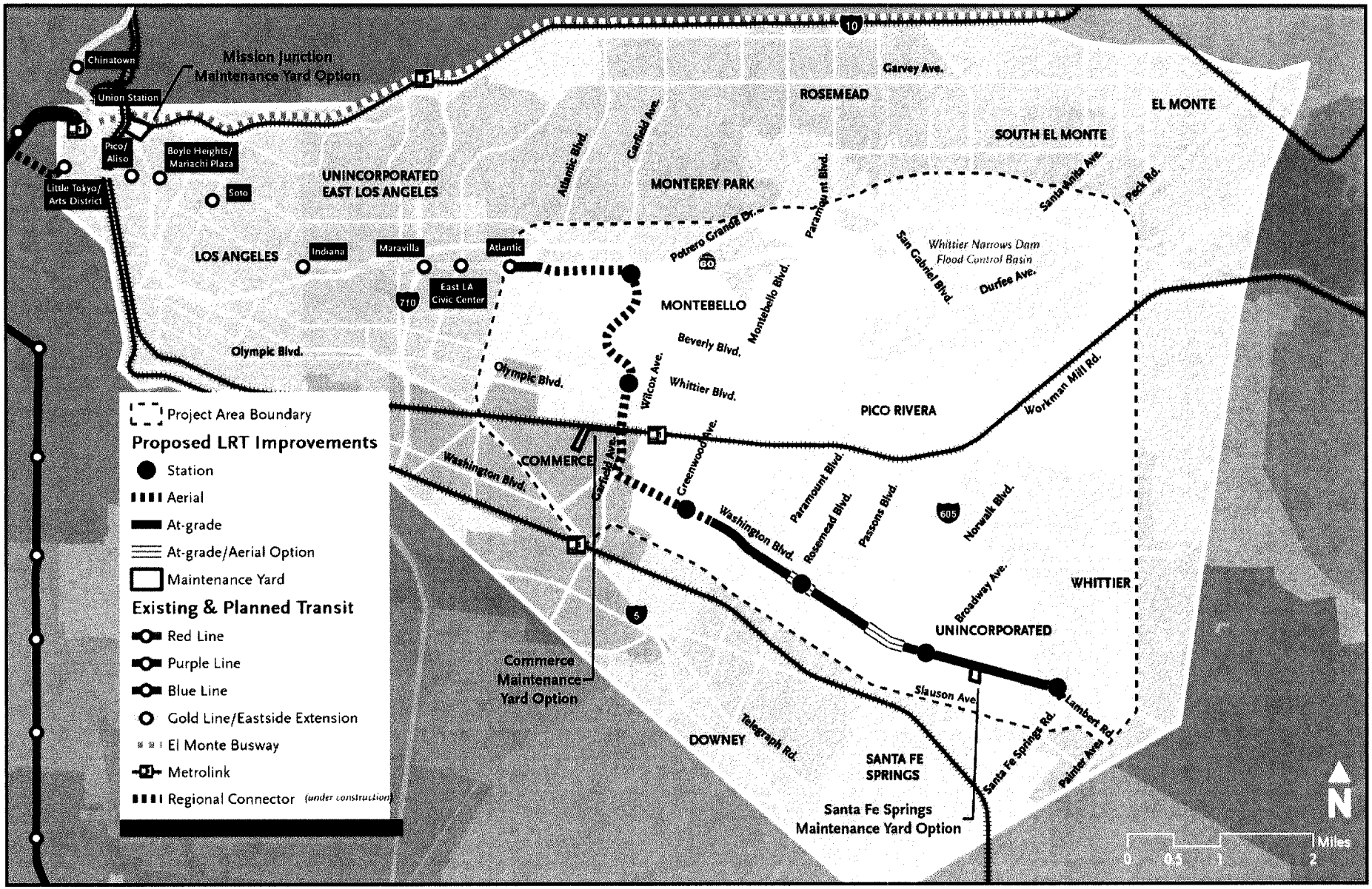
STATE ROUTE 60 ALTERNATIVE



ATTACHMENT A

WASHINGTON BLVD ALTERNATIVE



ATTACHMENT B

Executive Summary

Introduction

The Eastside Transit Corridor Phase 2 Project is a vital public transit infrastructure investment that would provide a transit connection to the existing Metro Gold Line Eastside Extension and link communities on the eastern side of the County of Los Angeles. With the implementation of the Regional Connector Transit Corridor project, the Metro Gold Line Eastside Extension will directly connect to the Metro Expo Line and will be operating light rail trains between Santa Monica, Culver City, University of Southern California (USC), downtown Los Angeles, and the Eastside by 2020, improving mobility within the project area and offering more sustainable transit alternatives. Figure ES-1 shows the regional Metro Rail lines expected to be operational by the year 2035, and illustrates how the Eastside Transit Corridor Phase 2 Project would extend the existing Metro Gold Line Eastside Extension.

The Eastside Transit Corridor Phase 2 Project would provide area residents, businesses, and transit -dependent populations with a transit alternative connecting them to the Metro Gold Line Eastside Extension and the regional rail system. The proposed Eastside Transit Corridor Phase 2 Project would extend the Metro Gold Line Eastside Extension from the existing Atlantic Station to the east by 6.9 to 9.5 miles. The proposed light rail transit (LRT) build alternatives would terminate near State Route 60 (SR 60)/ Peck Road or Washington Boulevard and Lambert Road. Figure ES-1 illustrates how the Eastside Transit Corridor Phase 2 Project would extend the existing Metro Gold Line Eastside Extension and provide access to the Metro Blue Line, Green Line, and Red and Purple Line subways.

In addition to mobility benefits, the Eastside Transit Corridor Phase 2 Project would provide the project area with transportation, economic, land use, and environmental benefits. The analysis presented in this document shows that improved mobility to and from the project area has the potential to boost economic development in the project area and improve social justice by providing better access to employment, educational opportunities, and activity centers. Improved transit connectivity would increase transit ridership, which would also generate environmental benefits through reduced vehicle trips, less roadway congestion, and improved air quality.

The Eastside Transit Corridor Phase 2 Project is included in the Southern California Association of Governments (SCAG) *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/ SCS), adopted in April 2012. The RTP also outlines several projects in and around the project area aimed at maximizing the effectiveness, safety, and reliability of Southern California's transportation system.

Project milestones for the Eastside Transit Corridor Phase 2 Project include:

- Publication of the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR)
- Public review and comment on the Draft EIS/EIR (60 days following publication)
- Publication of the Final EIS/EIR – Release of the Final EIS/EIR document is based on the condition that funding is available to allow for construction of the project within three years after issuance of the Record of Decision (ROD)

- Metro Board of Directors decides to approve a project alternative and adopt a Mitigation Monitoring and Reporting Program (MMRP) and CEQA Findings
- California Environmental Quality Act (CEQA) Notice of Determination (NOD)
- Federal ROD

Following the Federal ROD, the project can proceed to final design, construction, and operation. The schedule of these milestones will be refined as the project nears the end of the environmental review.

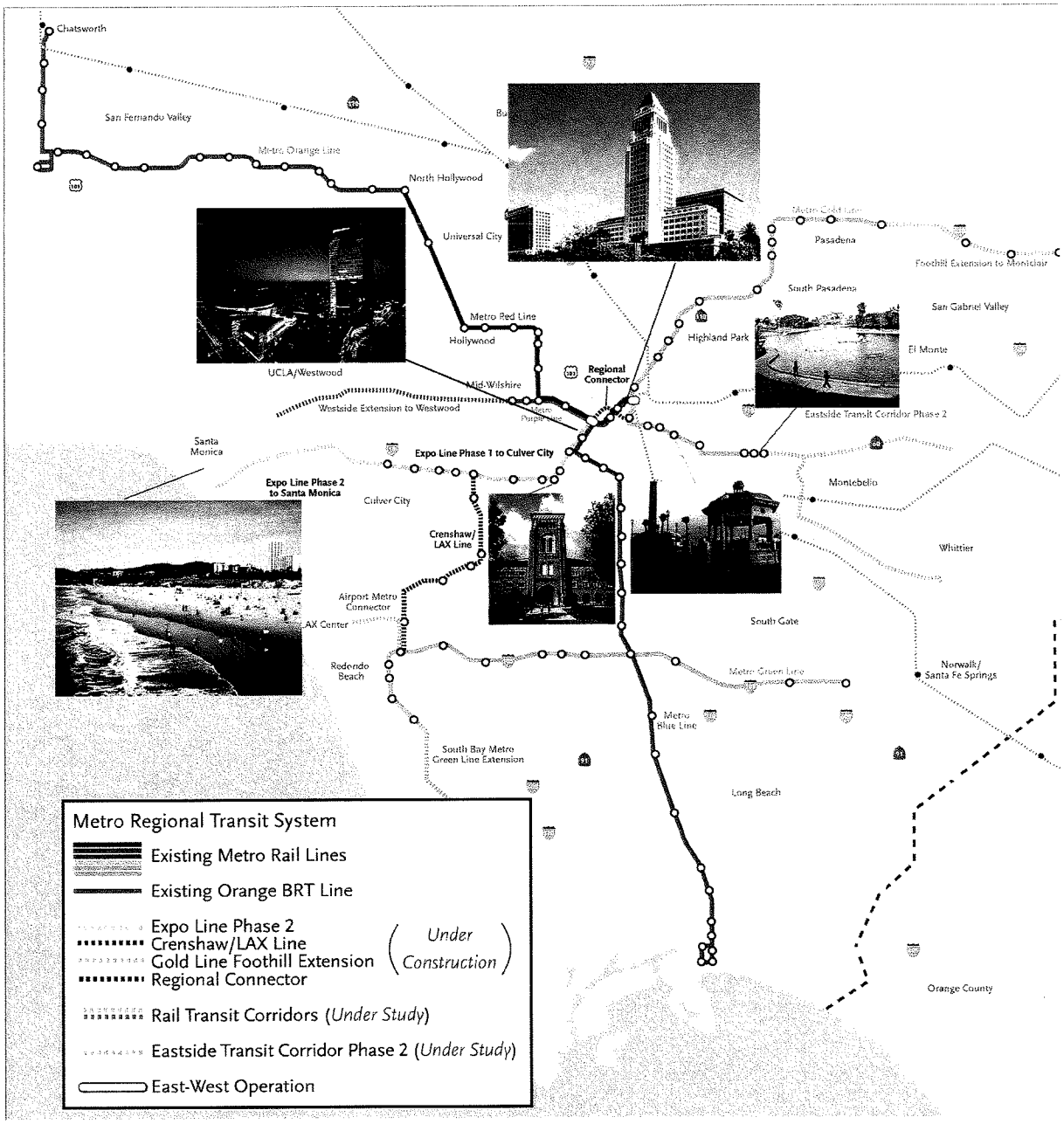


Figure ES-1: Existing and Proposed Regional Metro Rail Lines (2035)

Purpose and Need

Purpose

The purpose of the Eastside Transit Corridor Phase 2 Project is to provide area residents, businesses, and transit-dependent populations with a transit alternative connecting them to the Metro Gold Line Eastside Extension and the regional rail system.

In doing so, the project would improve mobility within the project area and offer a more sustainable transit alternative to address increased travel demand and projected growth, and would meet the following objectives:

- Serve the large number of transit-dependent and low-income populations in the project area;
- Increase access to major employment centers, activity centers, and destinations in the project area and Los Angeles County;
- Provide regional transit connectivity with the Metro Gold Line Eastside Extension and Measure R projects; and
- Provide transit alternatives to alleviate roadway congestion, improve mobility options for enhanced quality of life, and provide a convenient and reliable alternative to the automobile.

The project would improve mobility within the project area and offer a more sustainable transit alternative to address increased traffic demand and projected growth.

Need

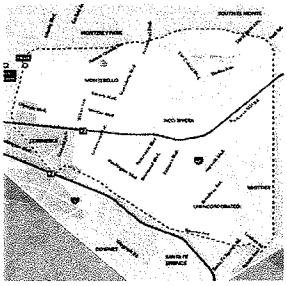
The following mobility challenges within the project study area will continue to grow, due in large part to population growth, if no action is taken:

- **Increasing travel demand** – The number of work trips taken to and from the project study area in 2006 is forecast to increase 32 percent by 2035.
- **Increasing travel times** – By 2035, the average peak-period travel time within the project study area is expected to increase by 25 percent and 34 percent in the morning and afternoon peak periods, respectively.
- **Transit-dependent population** – The project study area has a significant level of transit-dependent population who need convenient and reliable transit options to get them where they want and need to go; 38 percent of the project study area population is under age 18 or over age 65, 16 percent of households are categorized as low-income, and 12 percent of all households have zero vehicles.
- **Increasing freeway congestion** – With no major freeway improvements planned or funded, a growing population, and forecasted increases in travel demand, freeway congestion will continue to increase.
- **Increasing arterial congestion** – Major arterials in the project study area, including but not limited to Washington Boulevard and Garfield Avenue, experience heavy morning and evening peak period congestion, which negatively affects access for both automobiles and buses.
- **Heavy truck traffic** – The SR 60, I-5, and I-10 Freeways, along with project study area arterial streets, such as Washington Boulevard, are subject to heavy truck traffic. Larger vehicles and slower movements of heavy

truck traffic on freeway and arterial streets lead to a more congested environment in which both automobiles and buses operate.

- **Increasing population and employment growth** – Population densities, employment densities, and the concentration of activity centers in the project study area are expected to increase by five percent for population and one percent for employment by 2035.
- **Limiting travel options** – With limited regional rail system connections, residents of and visitors to the project study area can rely only on available bus systems operating on the same congested roadway network. Commuter rail options are limited to two Metrolink stations within the 82-square-mile project study area.

Project Corridor

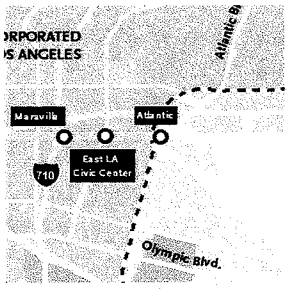


See Figure ES-2 on page ES-5

The Eastside Transit Corridor Phase 2 project area encompasses over 50 square miles of communities to the east and southeast of downtown Los Angeles. As illustrated in Figure ES-2, the project area includes portions of the cities of Commerce, Los Angeles, Montebello, Monterey Park, Pico Rivera, Rosemead, Santa Fe Springs, South El Monte, and Whittier, and portions of unincorporated Los Angeles County, which include East Los Angeles and west Whittier-Los Nietos.

Description of Alternatives

The Alternatives Analysis (AA) process identified and screened 47 potential transportation alternatives in light of the project's purpose and need, goals, and objectives. The AA process included initial technical analyses and community and public agency feedback gathered at meetings and public workshops. Alternatives considered during the AA process represent the full spectrum of reasonable means of achieving the goals and objectives outlined above. The AA evaluated the potential alternatives based on their environmental impacts, efficiency, financial feasibility, effectiveness, and equity. From the AA effort, alternatives emerged which were analyzed further in the addendum to the AA Report, and two build alternatives were confirmed and refined based on the public scoping process and community input received for this Draft EIS/EIR.



Existing Atlantic Station

Both proposed LRT build alternatives would begin at the existing Metro Gold Line Eastside Extension Atlantic Station at-grade and extend in an east direction terminating either in the vicinity of the SR 60/Peck Road interchange in South El Monte or in the vicinity of the Washington Boulevard and Lambert Road intersection in Whittier.

In addition to the LRT alternatives, a No Build Alternative and a Transportation System Management (TSM) Alternative are also being studied. The No Build Alternative demonstrates how the regional transportation system would function if the proposed project was not implemented, and serves as a benchmark for measuring the potential impacts of the TSM and build alternatives.

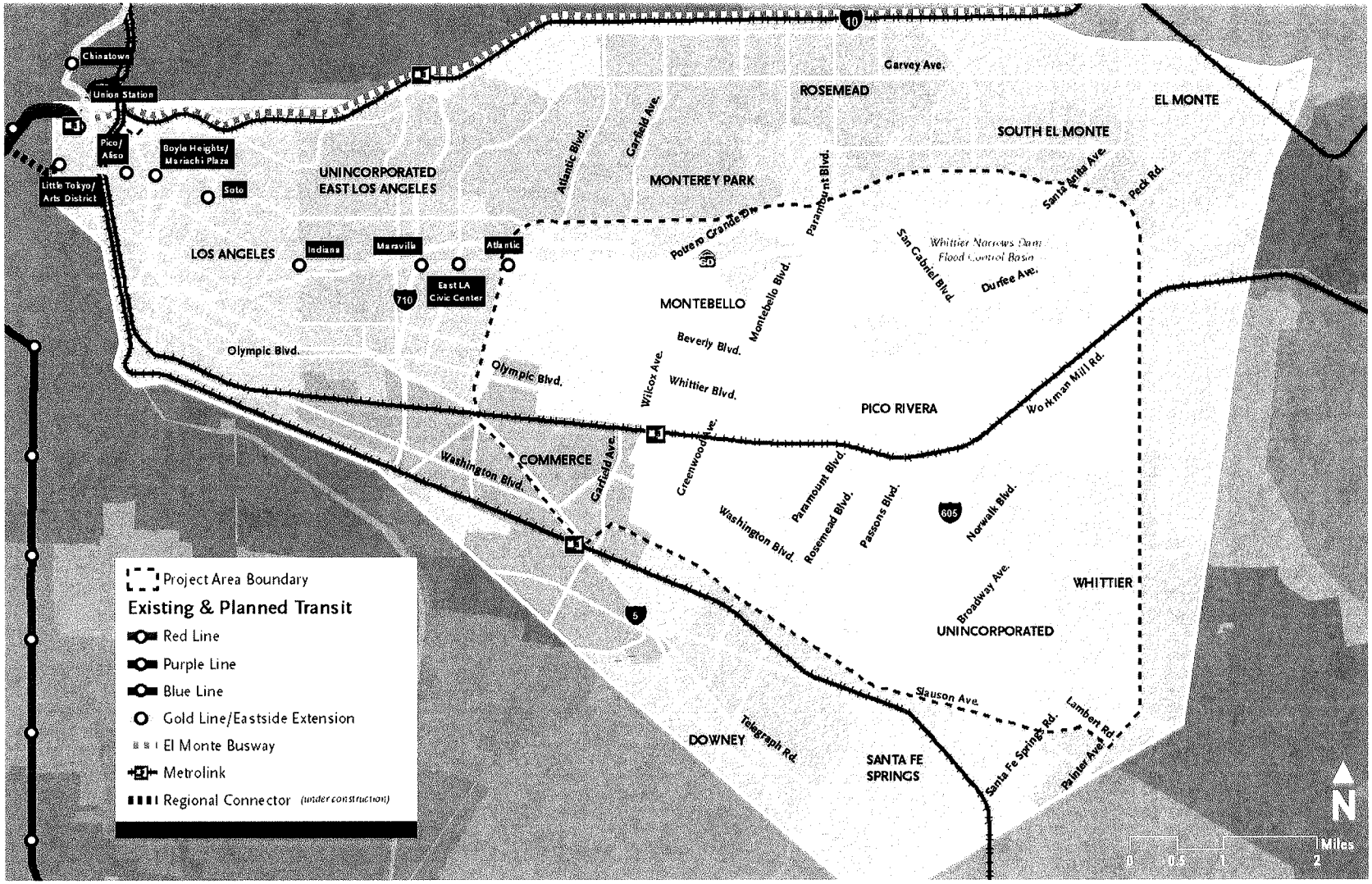
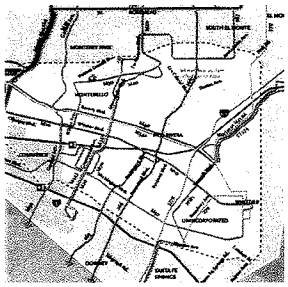


Figure ES-2: Project Area

No Build Alternative

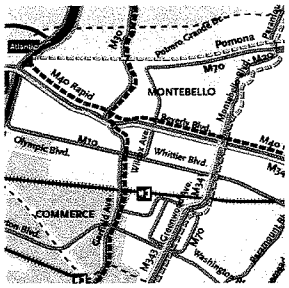


See Figure ES-3 on page ES-7

The No Build Alternative is the future scenario without either of the proposed build alternatives. The No Build Alternative does not include any major service improvements or new transportation infrastructure beyond what is listed in Metro's 2009 Long Range Transportation Plan (LRTP) through the year 2035 and all of the projects that are identified for construction and implementation in the financially constrained project list of the SCAG 2012-2035 RTP/SCS. Figure ES-3 illustrates the transit lines that currently serve the project area.

By the projection year of 2035, the Metro Crenshaw/Los Angeles International Airport (LAX) Line, Metro Expo Line to Santa Monica, Metro Purple Line to Westwood, Airport Metro Connector, and the South Bay Metro Green Line Extension, Metro Gold Line to Montclair, the LAX People Mover, and the Regional Connector that will connect existing lines through downtown Los Angeles will have opened. A number of bus routes will have been reorganized and expanded to provide connections with these new rail lines. The transit network within the project area would otherwise be largely the same as it is now.

Transportation System Management (TSM) Alternative



See Figure ES-4 on page ES-8

The TSM Alternative includes all of the transit and roadway provisions of the No Build Alternative, plus proposed enhancements to existing bus service. Under the TSM Alternative, the basic approach is to enhance the east-west bus service in the same corridor as the build alternatives to develop the TSM network. In order to leverage the investment in an east-west transit spine, the TSM Alternative also includes enhancements to north-south bus services that would feed and integrate with the improved east-west spine. The TSM Alternative is presented in Figure ES-4.

Build Alternatives

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

- SR 60 LRT Alternative
- Washington Boulevard LRT Alternative

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

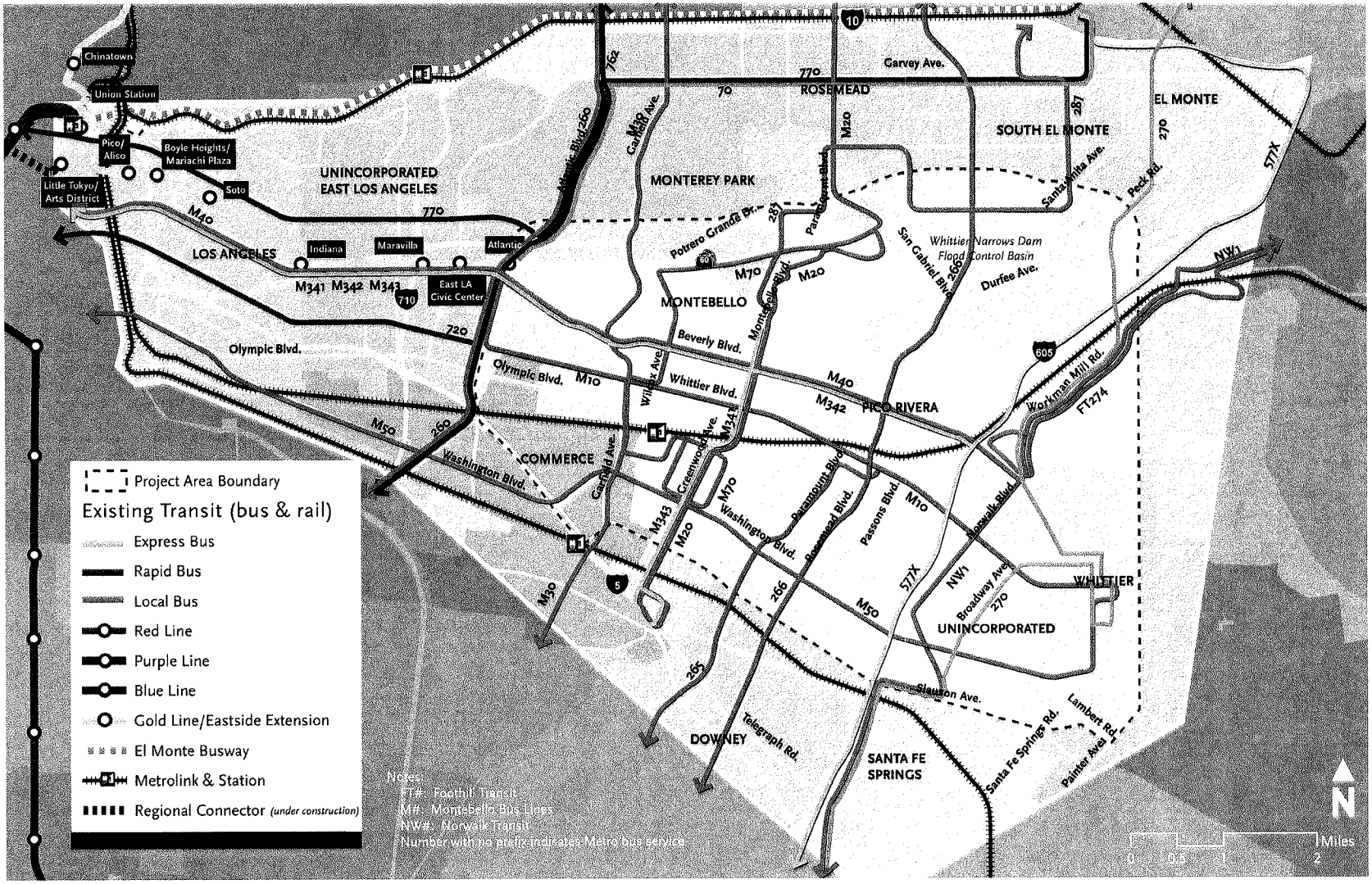


Figure ES-3: No Build Alternative

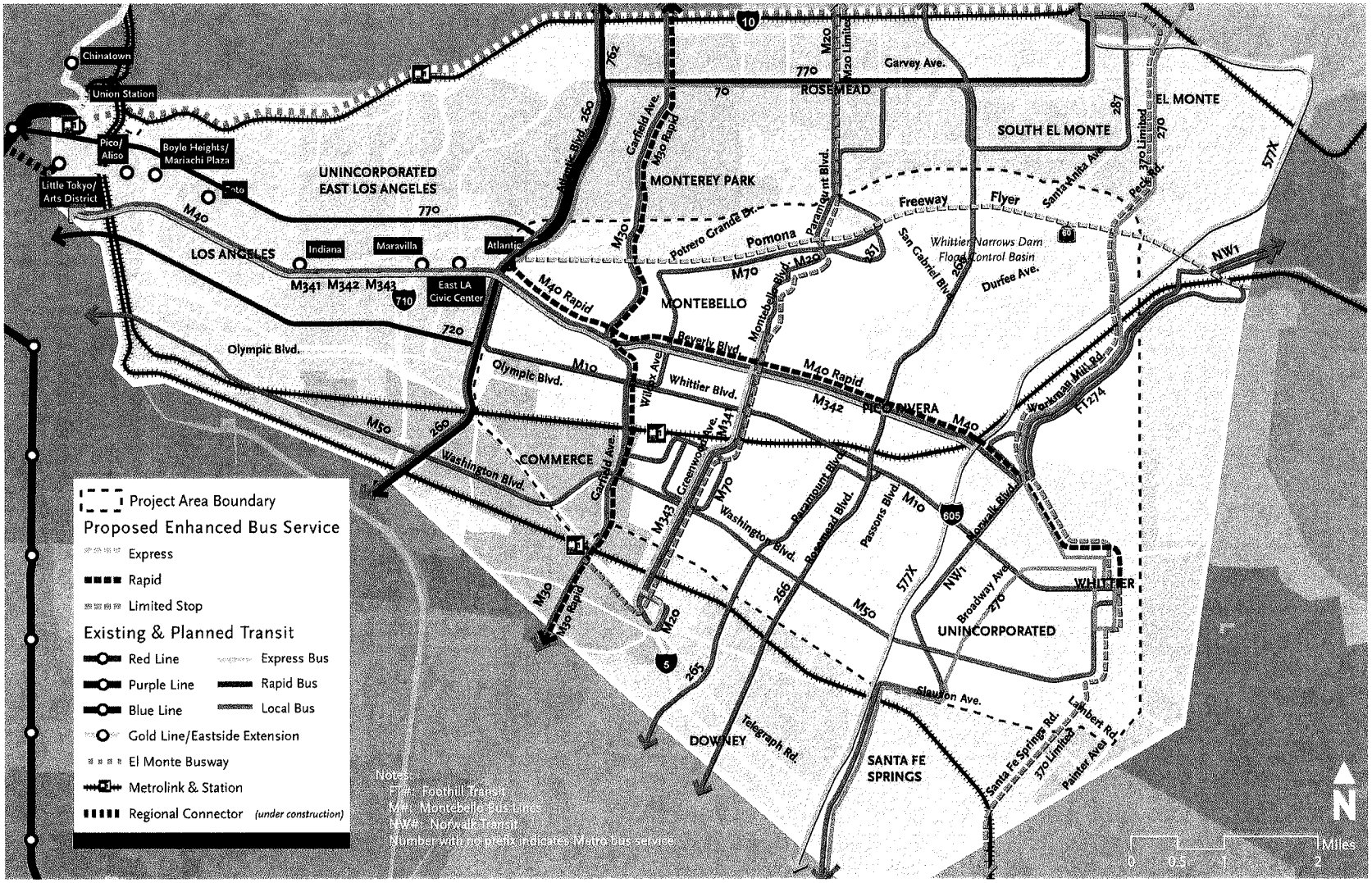


Figure ES-4: Transportation System Management Alternative

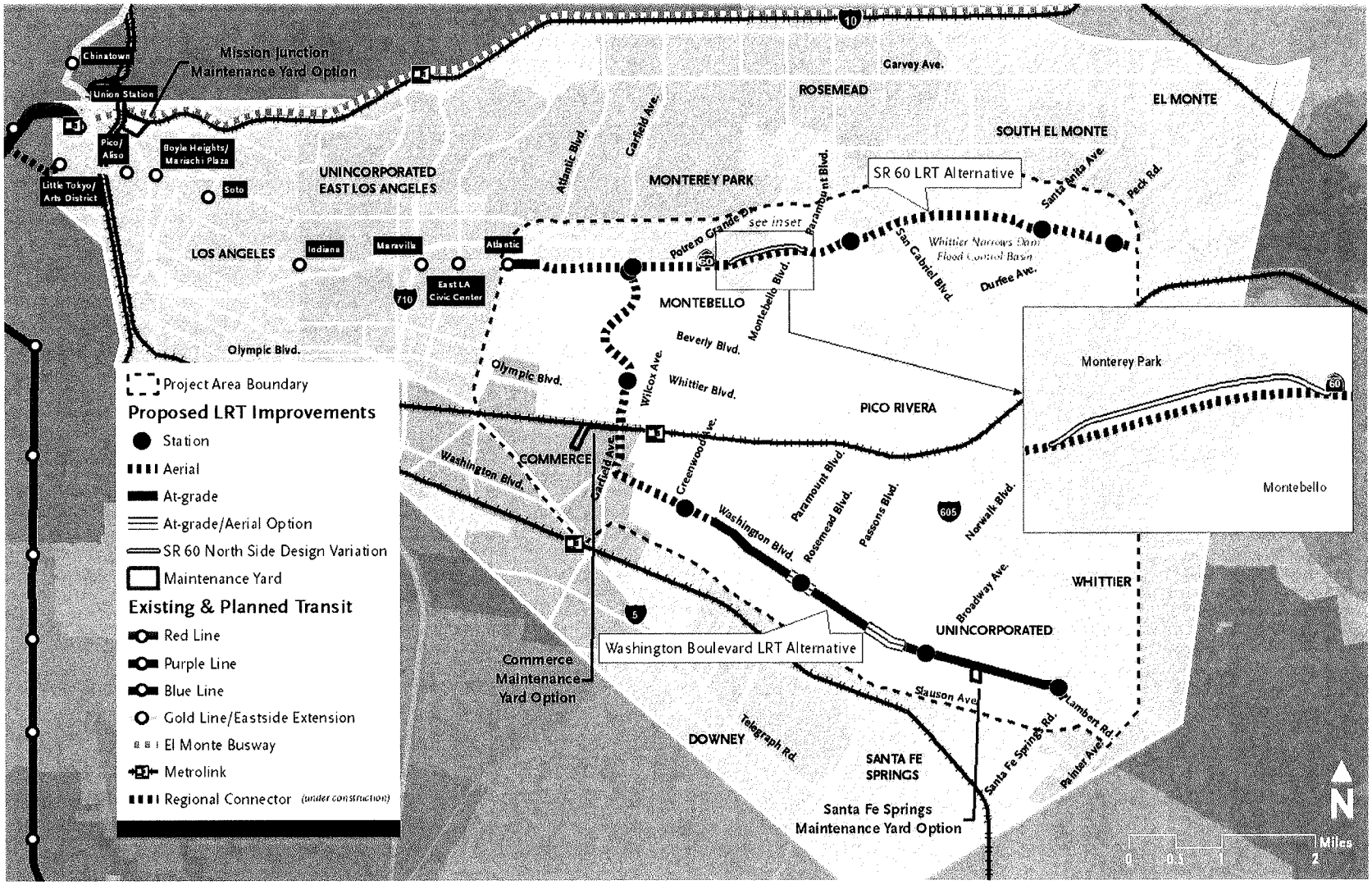
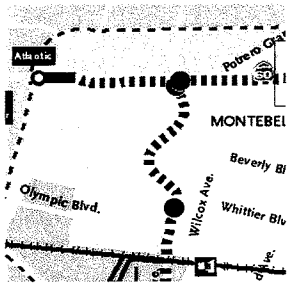


Figure ES-5: Build LRT Alternatives Studied in the EIS/EIR



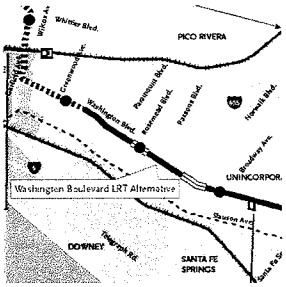
See Figure ES-5 on page ES-9

State Route 60 (SR 60) LRT Alternative

The SR 60 LRT Alternative would extend the existing Metro Gold Line Eastside Extension, a dedicated, dual track LRT system with overhead catenary wiring, from the existing Atlantic Station approximately 6.9 miles east to Peck Road. More than 94 percent of this alternative would operate in an aerial configuration, primarily within the southern portion of the SR 60 Freeway ROW. This alternative includes four stations with supporting park and ride facilities at each station. The SR 60 LRT Alternative also includes all No Build Alternative transit and roadway improvements and TSM Alternative bus services, with the exception of the Pomona Freeway Flyer (operator to be determined). One potential site has been preliminarily identified for the location of a new maintenance site, adjacent to the existing Mission Junction maintenance facility. A maintenance yard in the city of Monrovia, which is currently under construction, is also an option for the maintenance yard that would service this line.

In coordination with the California Department of Transportation (Caltrans), U.S. Environmental Protection Agency (USEPA), and U.S. Army Corps of Engineers (USACE), the SR 60 North Side Design Variation was analyzed as a way to minimize potential impacts to the former Operating Industries, Inc. (OII) landfill Superfund site, located through the SR 60 corridor in the City of Monterey Park. Appendix I includes formal correspondence from the three cooperating agencies. With this variation, instead of running along the edge of the landfill site on the south side of SR 60, the LRT alignment would transition from the south side to the north side of SR 60 just west of Greenwood Avenue and return to the south side of SR 60 approximately one-quarter mile west of Paramount Boulevard as shown in Figure ES-5. This design variation would include approximately 3,500 feet of at-grade and aerial alignment on the north side of SR 60, and two new bridges to carry the LRT guideway over the SR 60 Freeway.

Washington Boulevard LRT Alternative



See Figure ES-5 on page ES-9

The Washington Boulevard LRT Alternative would extend the existing Metro Gold Line Eastside Extension approximately 9.5 miles east to the city of Whittier at Lambert Road. This alternative is proposed to operate in an aerial and at-grade configuration. The proposed alignment would run east at-grade from the Metro Gold Line Eastside Extension Atlantic Station along Pomona Boulevard and transition to an aerial configuration running in the south side of the SR 60 Freeway ROW to Garfield Avenue. The alternative would then turn south in an aerial configuration above Garfield Avenue. The aerial structure would continue south on Garfield Avenue and turn southeast along Washington Boulevard. At Montebello Boulevard along Washington Boulevard, the alignment would transition to a street running configuration within the center of Washington Boulevard to a terminus station located south of Washington Boulevard just west of Lambert Road in the city of Whittier. This alternative includes six stations, with park and ride facilities at all station locations, with the exception of the Whittier Boulevard station. The Washington Boulevard LRT Alternative also includes all No Build Alternative transit and roadway improvements and TSM Alternative bus services, with the following exceptions:

- The Pomona Freeway Flyer (operator to be determined) would operate between the Garfield Avenue station and Crossroads Parkway near SR 60.
- Metro Rapid Route 720 would be extended to the Garfield Avenue station to provide connectivity.
- Montebello Bus Lines Route 50 Rapid service would operate between downtown Los Angeles and the Greenwood Avenue station only, as it would duplicate LRT service on Washington Boulevard east of Greenwood Avenue.

Three potential sites, as shown in Figure ES-5, have been preliminarily identified for the location of a new maintenance yard. A maintenance yard in the city of Monrovia, which is currently under construction, is also an option for the maintenance yard that would service this line. Two design variations are being considered for the Washington Boulevard LRT Alternative. The first design variation, the Rosemead Boulevard aerial crossing, would include a grade separation at Rosemead Boulevard. Compared to the original street running configuration of the Washington Boulevard LRT Alternative crossing the San Gabriel River/I-605, the second design variation would include an aerial crossing over the San Gabriel River/I-605 and a grade separation at Pioneer Boulevard.

Summary of Environmental Impacts

Based on guidance contained in the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), this Draft EIS/EIR studied the potential environmental consequences associated with construction and operation of the project alternatives, the TSM, and the No Build Alternative.

Due to the highly urbanized nature of the project area, potential environmental impacts pertain primarily to the built environment. Over 20 categories of environmental impacts were evaluated. Table ES-1 summarizes the characteristics of the alternatives and their effects. Environmental impact categories where at least one alternative would have an adverse effect or significant impact remaining after mitigation are discussed below under unavoidable adverse effects/significant impacts remaining after mitigation. Table ES-2 summarizes the impacts, mitigation measures, and impacts remaining after mitigation associated with each alternative.

Unavoidable Adverse Effects/Significant Impacts

The SR 60 LRT Alternative would have no unavoidable adverse effects/ significant impacts after implementation of mitigation measures.

The Washington Boulevard LRT Alternative would have unavoidable adverse effects/significant impacts on the following environmental resources:

Transportation: Seventeen intersections would be significantly impacted by operation of the Washington Boulevard LRT Alternative. Adverse effects/ significant impacts at one of the 17 intersections would be reduced to not adverse/less than significant. For the remaining 16 intersections, mitigation measures such as lane configuration changes that would increase capacity of the roadways or restrictions in allowable turning movements, were considered infeasible due to ROW constraints or secondary effects to upstream and downstream locations. Since no feasible mitigation measures exist that would reduce these impacts below the level of significance, impacts would be significant and unavoidable for the remaining 16 intersections.

Community and Neighborhood: The Washington Boulevard LRT Alternative would adversely alter the social and physical character of the existing community along Garfield Avenue in Montebello between Via Campo and Whittier Boulevard. It would adversely affect the area between Via Campo and Beverly Boulevard due to the removal of community resources (i.e., the Chinese Garden Restaurant and matures trees on the west side of Garfield Avenue) and adverse visual changes to the neighborhood. The physical changes to the existing character of this area would be adverse, even after implementation of mitigation measures. After mitigation, the Washington Boulevard LRT Alternative would still result in adverse effects under NEPA. Significant impacts would not occur under CEQA. This finding applies for both the at-grade and aerial options at Rosemead Boulevard and I-605/San Gabriel River, and all of the maintenance yard options.

Visual and Aesthetics: The Washington Boulevard LRT Alternative would substantially change the visual character of Garfield Avenue between Via Campo

and Whittier Boulevard and result in adverse effects/significant impacts. The aerial guideway and support beams and columns would straddle Garfield Avenue, permanently changing the visual scale and character of the area along Garfield Avenue between Via Campo and Whittier Boulevard. The visual alteration of the community along Garfield Avenue, including shading and shadows, would be prominent and would result in an adverse and unavoidable effect under NEPA and a significant and unavoidable impact under CEQA, even after mitigation.

Cumulative Impacts: Even with incorporation of mitigation, operation of the Washington Boulevard LRT Alternative would still result in a considerable contribution to cumulative visual impacts along Garfield Avenue between Via Campo and Whittier Boulevard and cumulative impacts on 16 intersections.

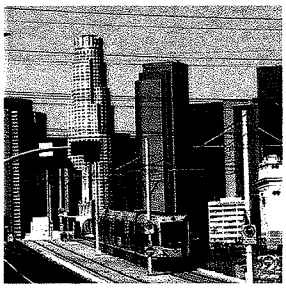
More information regarding environmental impacts is provided in the appropriate sections of Chapter 3, Transportation Impacts and Mitigation, and Chapter 4, Environmental Analysis, Consequences, and Mitigation. All impacts and mitigation measures associated with each alternative are listed below in Table ES-2.

Table ES-1: Summary Comparison of Alternatives

Criteria	No Build Alternative	TSM Alternative	SR 60 LRT Alternative	Washington Blvd LRT Alternative
Project Objectives				
Enhance service to transit dependent/low-income population	No	Yes	Yes	Yes
Increase access to activity and employment centers	No	Yes	Yes	Yes
Leverage transit investments to provide connections farther east	Low	Low	High	High
Alleviate roadway congestion	No	No	Yes	Yes
Improve mobility options	No	No	Yes	Yes
Provide a convenient/reliable alternative to the automobile	No	No	Yes	Yes
Alternative Features				
New Daily System-wide Linked Trips in 2035	N/A	22,798	28,683	29,575
Average Weekday Daily Boardings	N/A	N/A	16,700	19,900
Travel Time (minutes)	50-60	30-42	13	17.5 to 22
Capital Costs (millions, 2010$)	None	100.1	1,271 to 1,296	1,425 to 1,661
Alternative Length (miles)	N/A	N/A	6.9	9.5
New Stations	0	0	4	6
Environmental Impacts Remaining After Mitigation			**Adverse/Significant**	
Transportation: Intersection impacts during operation	No	No	No	Yes
Community and Neighborhood Impacts: Changes to the physical character of the existing community; community/resource events	No	No	No	Yes (adverse but not significant)
Visual and Aesthetic Impacts: Visual alteration of the existing community	No	No	No	Yes
Cumulative Impacts: Visual and aesthetic impacts	No	No	No	Yes
Cumulative Impacts: Intersection impacts	No	No	No	Yes

Source: CDM Smith 2012.

Notes:
"Adverse" refers to the level of effect under NEPA and 'significant' refers to the level of impact of significance per CEQA.
Adverse but not significant – impacts are perceived as negative are considered 'adverse' under NEPA but do not reach a level of significance under CEQA.



Avoidance, Minimization, and Mitigation Measures

Metro is committed to satisfying applicable federal, state, and local environmental regulations and to applying reasonable mitigation measures to reduce adverse effects and significant impacts. Measures to mitigate potential effects and impacts from the project alternatives are identified in this Draft EIS/EIR. If the Metro Board of Directors authorizes the completion of a Final EIS/EIR and a constrained financial plan, when the Metro Board of Directors decides to approve a project alternative the Board will also adopt an MMRP, which lists all of the committed mitigation measures, and CEQA Findings. Potential mitigation measures for potentially adverse effects/significant impacts are discussed under each category in Chapter 3, Transportation Impacts and Mitigation, and Chapter 4, Environmental Analysis, Consequences, and Mitigation and are summarized in Table ES-2.

Areas of Controversy/ Issues to be Resolved

Based on comments received and scoping meetings held as part of the Notice of Preparation (NOP) public review period, comments received after the NOP public review period, and coordination with cooperating agencies, the following areas of controversy and issues to be resolved are identified and addressed in this Draft EIS/EIR.

The comments received demonstrated substantial support for each of the two LRT alternatives

The comments received demonstrated substantial support for the two LRT alternatives: the SR 60 LRT Alternative and the Washington Boulevard LRT Alternative. Common themes regarding concerns of the community and public agencies included the importance of transit connectivity, service to colleges and universities, providing service to underserved areas, concerns regarding environmental and engineering challenges along the two alignments, and potential economic opportunities for the cities along the corridors. Environmental concerns included but were not limited to traffic impacts associated with construction and operation, construction impacts to residents and businesses, potential visual impacts to residential and business communities, and the potential for future projects to impact the proposed project's ridership. Appendix H, Final Scoping Report, of this Draft EIS/EIR includes a scoping comment log with comments received during the scoping period. Appendix I, Agency Coordination and Public Involvement, of this Draft EIS/EIR includes public comments received after the close of the scoping period.

Cooperating agencies and the public expressed environmental concerns regarding the proximity of the SR 60 LRT Alternative to the OII landfill Superfund site. Cooperating agencies and the public also expressed concern

over the proposed location of the Santa Anita Avenue station and park and ride facilities within a flowage easement maintained by USACE. In coordination with Caltrans, USEPA, and USACE, the SR 60 North Side Design Variation was analyzed as a way to minimize potential impacts to the former OII landfill Superfund site, located through the SR 60 corridor in the City of Monterey Park. Appendix I includes formal correspondence from the three cooperating agencies. With this variation, instead of running along the edge of the OII landfill Superfund site on the south side of SR 60, the LRT alignment would transition from the south side to the north side of SR 60 just west of Greenwood Avenue and return to the south side of SR 60 approximately one-quarter mile west of Paramount Boulevard.

Next Steps

- Draft EIS/EIR Comment Period – A 60-day comment period will begin with publication of the Notice of Availability of the Draft EIS/EIR.
- Metro Board identifies Locally Preferred Alternative – The Metro Board of Directors may choose to select a Locally Preferred Alternative in Fall 2014.
- Initiation of the Final EIS/EIR[1] – Winter 2014.

[1] Metro Board's authorization is required to proceed with initiating work on the Final EIS/EIR. Release of the Final EIS/EIR document is based on the condition that funding is available to allow for construction of the project within three years after issuance of the ROD.

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Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
No Build Alternative		
Transportation Impacts		
There are no adverse/significant transportation effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Displacement and Relocation Impacts		
There are no adverse/significant displacement and relocation effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Land Use and Development Impacts		
There are no adverse/significant land use and development effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Community and Neighborhood Impacts		
There are no adverse/significant Community and Neighborhood effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/No Impact
Visual and Aesthetic Impacts		
There are no adverse/significant visual and aesthetic effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Air Quality		
There are no adverse/significant air quality effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
No Build Alternative		
Climate Change		
There are no adverse/significant climate change effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Noise and Vibration		
There are no adverse/significant noise and vibration effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Ecosystems/Biological Resources		
There are no adverse/significant ecosystems/biological resources effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Geotechnical/Subsurface/Seismic/Hazardous Materials		
There are no adverse/significant geotechnical effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
There are no adverse/significant hazardous materials effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Water Resources		
There are no adverse/significant water resources effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
No Build Alternative		
Energy		
There are no adverse/significant energy effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Cultural Resources		
There are no adverse/significant cultural resources effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Parkland and Other Community Facilities		
There are no adverse/significant parklands and other community facilities effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Economic and Fiscal Impacts		
There are no adverse/significant economic and fiscal effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Safety and Security		
There are no adverse/significant safety and security effects/impacts associated with the No Build Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
No Build Alternative		
Environmental Justice		
The No Build Alternative would not result in disproportionate adverse effects to low-income and minority populations. However, the benefits that would be provided by the build alternatives would not be realized for those populations that rely on transit. The No Build Alternative would not provide the positive benefits of mobility and travel time and cost savings of the other alternatives.	No mitigation measures are required.	Not Adverse/Less than Significant
TSM Alternative		
Transportation Impacts		
Construction Transit operation would be disrupted during construction. On-street parking would be reduced during construction. Pedestrian circulation would be disrupted during construction. Bicycle circulation would be disrupted during construction.	**Construction Mitigation Measures** 3.0-i. Metro would prepare a Traffic Management Plan to facilitate the flow of traffic in and around the construction zone. These mitigation measures would also apply to transit service and pedestrian and bicycle circulation. Although more measures may be added, typical measures included in a Traffic Management Plan are: ▪ Schedule a majority of construction-related travel (i.e., deliveries, hauling, and worker trips) during the off-peak hours; ▪ Construction activities would be minimized during weekday AM and PM peak hours (typically 7:00 to 9:00 AM and 4:00 to 6:00 PM); ▪ Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas; ▪ Where feasible, temporarily restripe roadways to maximize the vehicular capacity at those locations affected by construction closures;	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
TSM Alternative		
Transportation Impacts		
	▪ Where feasible, place station traffic control officers at major intersections during peak hours to minimize delays related to construction activities; ▪ Develop and implement an outreach program to inform the general public about the construction process and planned roadway closures; and ▪ Develop and implement a program with business owners to minimize effects to businesses during construction activity, including but not limited to signage programs. Due to the limited nature of TSM Alternative construction, the Traffic Management Plan measures would be less in magnitude than those required for the build alternatives. Metro would also implement a Construction Mitigation Information Campaign to inform the community of potential impacts and mitigation measures as a result of the construction period. The campaign would coordinate preparation of traffic control plans with local jurisdiction reviews and approvals. **Transit** The Traffic Management Plan discussed under Mitigation Measure 3.0-i would mitigate temporary disruptions to transit service. In addition, Metro would coordinate with local transit agencies in advance to communicate closures, communicate information on any changes to bus service that would result from the TSM Alternative, and develop detour routes. **Pedestrian Circulation** In addition to the Traffic Management Plan discussed under Mitigation Measure 3.0-i, wayfinding signage, lighting, and access to specific pedestrian safety amenities (for example handrails, fences, and alternative walkways) would be implemented during the construction period in areas where existing pedestrian or bicycle facilities would be affected. During final design, Metro would also coordinate with local transit agencies to address pedestrian movements. This may help to ensure that only one side of the street would be closed at a time. If a crosswalk is temporarily closed, pedestrians would be directed to use one that is in close proximity to the closed crosswalk, and adjacent crosswalks would remain open so pedestrians could cross streets. In addition, access to businesses and residences would be maintained throughout construction.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
TSM Alternative		
Transportation Impacts		
Operation There are no adverse/significant transportation effects/impacts associated with operation of the TSM Alternative.	**Bicycle Circulation** In addition to the Traffic Management Plan discussed under Mitigation Measure 3.0-i, on-street bicycle detour routes and signage would be used to address temporary effects to bicycle circulation in areas where existing bicycle facilities would be affected. In addition, Metro would coordinate with local transit agencies to address bicycle movements. Furthermore, access to businesses and residences via bicycle routes would be maintained at all times throughout construction. In addition, temporary alternative bike routes on complementary streets would be identified as needed. **Operation Mitigation Measures** No mitigation measures are required.	
Displacement and Relocation Impacts		
There are no adverse/significant displacement and relocation effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Land Use and Development Impacts		
There are no adverse/significant land use and development effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Community and Neighborhood Impacts		
There are no adverse/significant community and neighborhood effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
TSM Alternative		
Visual and Aesthetic Impacts		
There are no adverse/significant visual and aesthetic effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Air Quality		
There are no adverse/significant air quality effects/impacts associated with construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Climate Change		
There are no adverse/significant climate change effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Noise and Vibration		
The TSM Alternative would not result in any noise or vibration effects/impacts during construction or operation.	No mitigation measures are required.	Not Adverse/Less than Significant
Ecosystems/Biological Resources		
There are no adverse/significant ecosystems/biological resources effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
TSM Alternative		
Geotechnical/Subsurface/Seismic/Hazardous Materials		
There are no adverse/significant geotechnical/subsurface/seismic effects/impacts associated with either construction or operation of the TSM Alternative. There are no adverse/significant hazardous materials effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Water Resources		
There are no adverse/significant water resource effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Energy		
There are no adverse/significant energy effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Cultural Resources		
There are no adverse/significant cultural resource effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
TSM Alternative		
Parklands and Other Community Facilities		
There are no adverse/significant parklands and other community facilities effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Economic and Fiscal Impacts		
Construction Construction would have temporary impacts on commercial and industrial businesses, particularly those near or adjacent to construction sites. **Operation** There are no adverse/significant economic and fiscal effects/impacts associated with operation of the TSM Alternative.	**Construction Mitigation Measures** 4.4-i. Notify property owners, businesses, and residences of major construction activities (e.g., utility relocation or disruption and milestones; re-routing of delivery trucks). 4.4.-ii. Whenever possible Metro, working with the construction contractor, would develop detours for any roads or sidewalks to be closed during construction; post signs (in appropriate languages) alerting pedestrians, bicyclists, and motorists of road and sidewalk closures and detours; ensure that pedestrian detours are accessible to seniors and disabled persons; and develop Worksite Traffic Control Plans in conjunction with the county and municipal departments of transportation to accommodate automobile, bicycle, and pedestrian traffic. 4.4-iii. Metro would maintain access to community facilities affected by construction activities. 4.4-iv. Metro would provide early notification to emergency service providers of any road closures or detours. 4.4-v. Metro would provide crossing guards as needed in the vicinity of construction sites, haul routes, and other relevant sites as proposed in the California Department of Transportation (Caltrans) Traffic Manual, Chapter 10-07.3, Warrants for Adult Crossing Guards. 4.4-vi. The construction contractor would erect barriers or fencing as needed during construction to minimize trespassing and vandalism. 4.4-vii. Metro would forewarn the public of any anticipated road closures or detours due to construction activity. **Operation Mitigation Measures** No mitigation measures are required.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
TSM Alternatives		
Safety and Security		
There are no adverse/significant safety and security effects/impacts associated with either construction or operation of the TSM Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Environmental Justice		
Construction and operation of the TSM Alternative would not result in disproportionate adverse effects to low-income and minority populations.	No mitigation measures are required.	Not Adverse/Less than Significant
SR 60 LRT Alternative		
Transportation Impacts		
Construction Transit operation would be disrupted during construction. Traffic mobility would be disrupted and/or impeded by construction vehicles and equipment in the areas of construction.	**Construction Mitigation Measures** Construction-related mitigation measures for transit, intersections, freeway off-ramps, parking, pedestrian circulation, and bicycle circulation impacts are provided below. 3.0-ii. Metro would prepare a Traffic Management Plan to facilitate the flow of traffic in and around the construction zone, to facilitate the flow of traffic in and around the construction zone. This mitigation measure would also apply to transit service. Although more measures may be added, typical measures included in a Traffic Management Plan are: ▪ Schedule a majority of construction-related travel (i.e., deliveries, hauling, and worker trips) during the off-peak hours; ▪ Construction activities would be minimized during weekday AM and PM peak hours (typically 7:00 to 9:00 AM and 4:00 to 6:00 PM); ▪ Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas; ▪ Where feasible, temporarily restripe roadway such as restriping turning lanes, through lanes, and parking lanes at the affected intersections to maximize the vehicular capacity at those locations affected by construction closures;	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Transportation Impacts		
Freeway ramps may be temporarily closed during construction. Construction of the SR 60 North Side Design Variation would result in temporary freeway closures. Off-street parking would be reduced during construction. On-street parking would be reduced during construction of the Mission Junction Maintenance Yard Option. Pedestrian circulation would be disrupted during construction. Bicycle circulation would be disrupted during construction.	▪ Where feasible, temporarily remove on-street parking to maximize the vehicular capacity at those locations affected by construction closures; ▪ Where feasible, place station traffic control officers at major intersections during peak hours to minimize delays related to construction activities; ▪ Develop and implement an outreach program to inform the general public about the construction process and planned roadway closures; and ▪ Develop and implement a program with business owners to minimize effects to businesses during construction activity, including but not limited to signage programs. **Transit** The Traffic Management Plan discussed under mitigation measure 3.0-ii would mitigate temporary disruptions to transit service. 3.0-iii. Metro would coordinate with local transit agencies in advance to communicate closures, communicate information on changes to bus service, and develop detour routes. Access to businesses and residences via transit would be maintained at all times throughout construction. **Intersections** 3.0-iv. Metro would coordinate with the local jurisdictions and California Department of Transportation (Caltrans) to designate and identify haul routes for trucks and to establish hours of operation. The selected routes should minimize noise, vibration, and other effects. To the extent practical, traffic lanes would be maintained in both directions, particularly during the morning and afternoon peak hours and access to adjacent businesses via existing or temporary driveways would be maintained throughout the construction period. 3.0-v. Metro would coordinate with local school districts to disclose potential road closures and suggest detour routes for carpooling and accessing schools. **Freeway Off-Ramps** 3.0-vi. All ramp closures or usage of ramp shoulders would need to be approved by Caltrans before implementation. If ramps are temporarily closed, vehicles would be directed to use upstream or downstream locations that are in close proximity to closed ramps, and adjacent rams would be kept open to minimize disruptions. 3.0-vii. To accommodate any increase in activity at these ramps, modifications to signal timing (including the provision of additional green time or optimization of signal splits) would be required, and implemented by Caltrans for the affected jurisdictions. Access to businesses and residences along the project alternatives would be maintained throughout construction.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Transportation Impacts		
	3.0-viii. Public notice of all freeway closures would be provided and detour routes would be indicated. With this mitigation measure, since the freeway closures would be temporary in nature, the public would be notified in advance and detour routes would be provided; the closures would not cause an adverse effect to operations. Freeway closures would occur overnight or on weekends when traffic volume is minimal. **Parking** 3.0-ix. In addition to the Traffic Management Plan discussed mitigation measure 3.0-ii, Metro would work with the local jurisdictions, agencies, and businesses to implement potential parking mitigation options to help offset temporary losses during the construction period in areas of high commerce and automobile traffic. This would include the identification of potential replacement parking spaces, and the development of a signage and wayfinding program to direct users to the relocated spaces. In addition, as part of the construction phasing plans, efforts would be made to minimize the loss of parking on both sides of the street or on consecutive blocks. Project contractors would provide alternative off-street parking for their employees during the construction period, in order to minimize the loss of parking to adjacent commercial districts. Project contractors would prohibit parking for their employees in adjacent residential neighborhoods in order to minimize the adverse effects to nearby residents. **Pedestrian Circulation** 3.0-x. Wayfinding signage, lighting, and access to specific pedestrian safety amenities (for example handrails, fences, and alternative walkways) would be implemented temporarily during the construction period in areas where existing pedestrian and/or bicycle facilities would be affected. 3.0-xi. During final design, Metro would coordinate with local agencies to address pedestrian movements. This may help to ensure that only one side of the street would be closed at a time. If crosswalks are temporarily closed, pedestrians would be directed to use one that is in close proximity to closed crosswalks, with adjacent crosswalks remaining open so that pedestrians could cross streets. In addition, access to businesses and residences along the SR 60 LRT Alternative alignment would be maintained throughout construction. **Bicycle Circulation** 3.0-xii On-street bicycle detour routes and signage would be used in areas where existing bicycle facilities would be affected to address temporary effects to bicycle circulation. On-street bicycle detour routes would be developed and appropriate signage would be provided.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Transportation Impacts		
Operation The SR 60 LRT Alternative would have a substantial adverse affect/significant impact on the following four intersections: Wilcox Avenue/Pomona Boulevard, Santa Anita Avenue/SR 60 EB Ramps, Durfee Avenue/Slack Road, and Peck Road/Durfee Avenue. The SR 60 LRT Alternative would require the elimination of existing off-street parking facilities at three of the four proposed stations (Garfield Avenue station, Shops at Montebello station, and Peck Road station), which would result in spillover parking to the surrounding streets and potential for use of other nearby off-street facilities.	3.0-xiii During final design, Metro would coordinate with local agencies to address bicycle movements. Furthermore, in areas where existing bicycle facilities would be affected, access to businesses and residences via bicycle routes would be maintained at all times throughout construction. In addition, temporary alternative bike routes on complementary streets would be identified as needed. **Operation Mitigation Measures** **Intersections** 3.0-xiv. The operation of Santa Anita Avenue/SR 60 EB Ramps would be improved through optimization of signal splits and providing additional green time to approaches with long vehicle queues and high delay. 3.0-xv. The intersection of Peck Road/Durfee Avenue would provide station access on the east leg of the intersection. The lane configuration of this intersection approach would change from an eastbound all-way middle lane movement to a shared through-left lane and a right-turn lane. In addition, the phasing of this intersection would be updated to accommodate additional traffic volumes and the cycle length of this intersection would be increased to 120 seconds. **Parking** 3.0-xvi. For parcels that are adversely affected under NEPA due to the partial acquisition of parking at the Shops at Montebello Station, replacement parking would be provided at the parcel or at a nearby assemblage of parcels. Shared-use parking arrangements would be considered within new Metro facilities. Metro would work with local jurisdictions, businesses and merchants, and commerce associations to implement potential parking mitigation options to help offset losses during operation. At the Shops at Montebello Station, Metro would also work with the Shops at Montebello to identify additional off-street parking facilities that could be used to accommodate the estimated 40 space shortfall.	
Displacement and Relocation Impacts		
Construction Construction of the SR 60 LRT Alternative would require acquisition of 23 parcels, including partial acquisition as easements of 8 parcels, partial acquisition in fee of 4 parcels, and full acquisition of 11 parcels.	**Construction Mitigation Measures** 4.3-i. Metro would work with the local jurisdictions, agencies, and businesses to implement parking mitigation options (e.g., including but not limited to creating temporary one-way streets to provide diagonal parking; convert police and fire preferential parking to permit parking; lease an existing garage; or provided temporary metered parking; provide motorist wayfinding signs to find parking facilities;) to help offset temporary losses during the construction period in areas of high commerce and automobile traffic (see Mitigation Measure 3.0-viii in Chapter 3).	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Displacement and Relocation Impacts		
Acquisitions required for the SR 60 LRT Alternative would result in an adverse effect on 725 off-street parking spaces, which would require replacement parking The 12-acre Commerce Maintenance Yard Option would require the partial acquisition of six privately-owned properties. **Operation** There are no adverse/significant displacement and relocation effects/impacts associated with operation of the SR 60 LRT Alternative.	4.3-ii. Metro would provide replacement parking for parcels that would be adversely affected due to the partial acquisition of parking at the parcel or at a nearby assemblage of parcels. Metro would provide replacement parking at the parcel level or at a nearby parcel. Metro would consider shared use parking arrangements at Metro facilities in conjunction with reconfiguration of parking lots to maximize capacity (also see Mitigation Measure 3.0-x in Chapter 3). In addition, access to the property remainder would be maintained at all times during construction. 4.3-iii. Metro would coordinate with the city and property owners to provide replacement parking at nearby parcels to ensure that public parking continues to be available (also see Mitigation Measure 3.0-x in Chapter 3). **Operation Mitigation Measures** No mitigation measures are required.	
Land Use and Development Impacts		
Construction Surrounding land uses could be disrupted while construction activities are performed. Construction of the SR 60 LRT Alternative could generate temporary pedestrian and vehicle detours that would inhibit, but not prevent, access to existing land uses along the alignment. The SR 60 North Side Design Variation would require freeway closures to construct the bridge over the freeway, which would conflict with freeway operations.	**Construction Mitigation Measures** In addition to the mitigation measure identified below, the following mitigation measures from Chapter 3, Transportation Impacts, Section 4.7, Air Quality, Section 4.9, Noise and Vibration, and Section 4.12, Water Resources would be implemented: 3.0-ii, 3.0-iv through 3.0-vi, 3.0-viii, 3.0-x, 3.0-xi, 4.7-i, and 4.9-i through 4.9-viii. (Refer to the specific section for the detailed mitigation measure.) 4.2-i. Intersections: The design variation would cross a gated, private segment of Greenwood Avenue that is used to access the OII landfill site at-grade; intermittent closure of the roadway would be needed temporarily for construction. As a result, some landfill maintenance vehicles would need to be re-routed in order to access the area, but alternative routes are available. Metro would coordinate with New Cure Inc. prior to and during intermittent closures of Greenwood Avenue.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Land Use and Development Impacts		
Operation Development of this alternative has the potential to reduce flood storage space within the flowage easement, which would conflict with the Whittier Narrows Dam Basin Master Plan.	**Operation Mitigation Measures** The following mitigation measures from Section 4.12, Water Resources would be implemented: 4.12-i and 4.12-ii. (Refer to the specific section for the detailed mitigation measure.)	Not Adverse/Less than Significant
Community and Neighborhood Impacts		
Construction Community disruption would occur while construction activities are performed, which would result in substantially adverse impacts to project area social and physical character.	**Construction Mitigation Measures** In addition to mitigation measures identified below, mitigation measure 4.15-vii from Section 4.15, Parklands and Other Community Facilities, and mitigation measures 3.0-ii through 3.0-xiii from Chapter 3, Transportation Impacts would be implemented. (Please refer to the specific section for the detailed mitigation measure.) 4.5-i. Whenever possible, Metro would develop detours for any road or sidewalks to be closed during construction; post signs (in appropriate languages) alerting pedestrians, bicycles, and vehicles of road and sidewalk closures and detours; ensure that pedestrian detours are accessible to senior citizen and disabled persons; and develop Worksite Traffic Control Plans in conjunction with the county and municipal departments of transportation to accommodate automobile, pedestrian, and bicycle traffic. 4.5-ii. Metro would maintain access to community facilities affected by construction activities. 4.5-iii. Metro would provide early notification to emergency service providers of any road closures or detours. 4.5-iv. Metro would develop a community outreach plan to notify local municipalities of construction schedules, road and sidewalk closures, and detours; coordinate with local municipalities during preparation of traffic management plans to minimize potential construction impacts to community resources and special events; and consider limiting construction activities during special events. 4.5-v. Metro would develop a construction mitigation plan with municipalities' input to address construction impacts and determine truck hauling routes and schedules that would minimize impacts on sensitive uses in all parts of the project area. Hauls routes should avoid residential areas and use major thoroughfares to the maximum extent feasible.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Community and Neighborhood Impacts		
Construction sites can sometimes become attractive venues for loitering and illegal activity, which could result in adverse effects. Construction of the SR 60 LRT Alternative would occur adjacent to three community resources, which could result in adverse effects. Construction would likely result in a temporary decrease in accessibility to some businesses, and reductions in on-street and off-street parking. This potential impact would be adverse during the construction phase. Vehicle and pedestrian mobility would be reduced during construction due to intermittent road and sidewalk closures and detours. This potential impact would be adverse during the construction phase. Street and sidewalk closures during construction could temporarily exacerbate the dividing effect that SR 60 currently has within the project area.	4.5-vi. Metro would provide crossing guards as needed in the vicinity of construction sites, haul routes, and other relevant sites, as proposed in the California DOT Traffic Manual, Chapter 10-07.3, Warrants for Adult Crossing Guards. 4.5-vii. The construction contractor would erect barriers/fencing and provide security personnel during construction to minimize trespassing and vandalism. Barriers would be enhanced with artwork and attractive design features where possible. 4.5-viii. Metro would forewarn the public of any anticipated road closures or detours due to construction activity. 4.5-ix. Metro would work with businesses along the alignment to maintain their visibility during construction. 4.5-x. Where possible, Metro would phase construction so that activities at any one location do not last for the entire construction period. 4.5-xi. Metro would provide adequate security of construction areas. 4.5-xii. Metro would incorporate input from emergency officials when designing construction plans.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Community and Neighborhood Impacts		
Operation LRT grade crossings can potentially delay emergency vehicles if they arrive at the same time as a passing train. Metro would coordinate with emergency response officials when designing grade crossings to ensure that emergency response times do not deteriorate as a result of the project. LRT stations and facilities can be perceived as potential safety hazards and attractive locations for illegal activities, which could result in adverse effects.	**Operation Mitigation Measures** Metro would implement the following mitigation measures as they relate to the operation of the SR 60 LRT Alternative as well as mitigation measure 3.0-xvi as described in Chapter 3, Transportation Impacts. Please refer to the specific section for the detailed mitigation measure. 4.5-xiii. Metro would provide adequate security at LRT facilities. 4.5-xiv. Metro would incorporate input from emergency officials when designing grade crossings.	
Visual and Aesthetic Impacts		
Construction Construction activities would result in visual disruptions to the immediate vicinity. However, construction would be temporary and the extent of the visual nuisance from construction equipment and vehicles would be limited to the areas adjacent to SR 60, a visible transportation land use.	**Construction Mitigation Measures** 4.6-i. Construction methods and practices and other management approaches would be consistent with applicable Metro design criteria and local and state regulations, as well as general laws for building and safety. 4.6-ii. Construction staging areas, access roads, and structure locations would be maintained in an orderly manner and kept free of trash and debris daily by the construction contractor. 4.6-iii. Areas disturbed by construction activities would be restored by Metro and the construction contractor to their pre-project condition upon completion of construction activities, where feasible. 4.6-iv. Visually obtrusive erosion control devices, such as silt fences, plastic ground cover, and straw bales would be removed by the construction contractor as soon as the area is stabilized. 4.6-v. Street trees and other vegetation removed to accommodate construction would, where feasible, be stored by Metro during construction and replanted upon completion of construction, those trees considered historic would be replanted in close proximity to their original locations. Where storage and replanting is not possible, the mature vegetation would be replaced with appropriate sized trees and vegetation within one month of construction completion.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Visual and Aesthetic Impacts		
The SR 60 LRT Alternative would not result in a construction-related adverse effect under NEPA or a significant impact under CEQA with regard to scenic resources, visual character, nighttime illumination, and shade and shadows. **Operation** No officially designated scenic vistas exist within the project area. The SR 60 LRT Alternative would minimally change distant views. The LRT improvements would be consistent with the existing visual character of the transportation corridor and the adjacent land uses. The SR 60 LRT Alternative would not result in an operational-related adverse effect under NEPA or a significant impact under CEQA with regard to scenic resources, visual character, nighttime illumination, and shade and shadows. However, mitigation is included to further reduce effects/impacts below the level of adverse/significant.	4.6-vi. Stockpile areas would be located in less visually sensitive areas (i.e., away from public recreational facilities, natural open spaces, residences, and other visually sensitive resources) and would be shielded by the construction contractor from residents and businesses. 4.6-vii. Lighting would be hooded and directed towards the interior of construction staging areas by the construction contractor to minimize spillover effects into adjacent residential areas and other sensitive land uses. 4.6-viii. Screening and construction fences would be used by construction contractor to shield construction lighting from adjacent residential land uses wherever possible. 4.6-ix. Non-permanent landscaping and aesthetically pleasing fencing, with possible community artwork, where feasible, would be used by Metro and the construction contractor to shield construction activities and staging areas from residential and visually sensitive areas. Metro and the construction contractor would coordinate with local jurisdictions and school districts to develop art work for fencing. **Operation Mitigation Measures** 4.6-x. Use of form liners, textured surfaces, and non-reflective building materials would be included in the design of the retaining walls and sound walls, where feasible.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Air Quality		
Construction Regional construction emissions for the SR 60 LRT Alternative would exceed the PM10 localized significance thresholds (LST) for the Mission Junction Maintenance Yard Option. **Operation** Operational emissions associated with the SR 60 LRT Alternative include emissions from highway traffic, transit buses, a light rail maintenance yard, and parking lots. Daily incremental operational emissions would decrease for all pollutants.	**Construction Mitigation Measures** 4.7-i. Chemical soil stabilization measures would be implemented by the construction contractor. 4.7-ii. Ground cover in disturbed areas quickly would be replaced quickly by the construction contractor. 4.7-iii. A minimum soil moisture of 12 percent would be maintained by the construction contractor during any equipment loading and unloading activities to control fugitive dust. **Operation Mitigation Measures** No mitigation measures are required.	Not Adverse/Less than Significant
Climate Change		
There are no adverse/significant climate change effects/impacts associated with either construction or operation of the SR 60 LRT Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Noise and Vibration		
Construction Construction activities are predicted to exceed the FTA daytime noise limits at only the closest residences and commercial properties to station and guideway construction.	**Construction Mitigation Measures** 4.9-i. Use construction methods that avoid pile-driving at locations with noise- and vibration-sensitive receptors, such as residences, schools, and hospitals. Metro's contractor would consider using cast-in-drilled-hole (CIDH) or other suitable piling methods (such as steel torque-down piles) rather than impact pile drivers to reduce excessive noise and vibration. This should be considered near sensitive receptors.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Noise and Vibration		
The distances at which an exceedance of the FTA vibration damage criterion of 0.2 inches per second (ips) would occur (for typical timber and masonry residential structures) ranges from 15 feet for trucks to 20 feet for bulldozers to 35 feet for vibratory rollers. Construction activities are predicted to exceed the FTA vibration infrequent annoyance criterion at only the closest residences and commercial properties. **Operation** Along the SR 60 LRT Alternative alignment, severe operational noise impacts are predicted at one residence. Adverse vibration effects from operations of the SR 60 LRT Alternative are predicted at three residences. Vibration effects would be the same with the SR North Side Design Variation.	4.9-ii. In areas where vibration-producing equipment would be used, Metro's contractor would conduct a survey of the closest receptors (particularly fragile historic properties) to determine the baseline structural integrity and condition of walls and joints. These surveys would include the installation of strain gauges or photographic documentation of the interior walls and exterior façade to provide a basis for comparison after construction is completed. Depending on the baseline conditions of the nearby buildings, an appropriate construction and monitoring plan would be developed to minimize potential damage to susceptible structures. Where possible, temporary noise barriers would be erected between noisy activities and noise-sensitive receptors. If driven piles are required for deep foundation support or in areas within the monocover (to contain contaminated materials), steel torque-down piles can also be used to mitigate noise and vibration impacts. 4.9-iii. Construction equipment and material staging areas would be located away from sensitive receptors. 4.9-iv. Construction traffic and haul routes would be routed along roads in non-noise-sensitive areas where possible. 4.9-v. Contractors would be required to use best available control technologies, whenever possible, to limit excessive noise and vibration when working near residences. 4.9-vi. Metro will minimize the construction duration using construction methods that would shorten the construction schedule. 4.9-vii. Whenever possible, construction activities would be conducted during the daytime and during weekdays in accordance with most local noise-control ordinances. 4.9-viii. The public would be adequately notified of construction operations and schedules. Methods such as construction-alert publications or a Project Hotline would be used to handle complaints quickly. In addition, per Mitigation Measures 3.0-ii through 3.0-viii in Chapter 3, a Traffic Management Plan would also reduce noise and vibration effects/impacts from traffic and freeway operations during construction of the SR 60 LRT Alternative to not adverse under NEPA and less than significant under CEQA. **Operation Mitigation Measures** **Noise Mitigation Measures** The SR 60 LRT Alternative would have adverse effects under NEPA and a significant impact under CEQA from noise effects/impacts due to gaps at switches. These effects/impacts may be eliminated in a number of ways, such as relocating the switches (which are a crossover component), installing ballast mats under conventional switches to decouple the train vibration from the track supporting structure, or using a gapless spring frog.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Noise and Vibration		
	4.9-ix. Relocating switches away from noise-sensitive receptors is one cost-effective measure for mitigating this impact. However, if operational concerns interfere with the relocation of switches, then several other viable mitigation options are available such as point-less switches (gapless spring frogs that eliminate the gap in the rail) or low-vibration isolators (ballast mats or tie pads) such as have been used on the San Diego Trolley system. The proposed crossover east of the Santa Anita Avenue station would be relocated away from sensitive land use receptors to eliminate noise impacts due to switches per FTA noise criteria. 4.9-x. For noise impacts due to LRV passbys along tangent aerial track sections, parapets are recommended in lieu of safety railings as part of the alignment to provide additional shielding for nearby residences. Parapets would be used at the following locations to eliminate noise impacts from LRV passbys: ▪ Eastbound track side starting just west of Gerhart Avenue to just east of Findlay Avenue – three-foot by 2,500-foot barrier ▪ Eastbound track side starting just east of Vail Avenue to the Montebello/Monterey Park city boundary – three-foot by 800-foot barrier (not applicable for the SR 60 North Side Design Variation) ▪ Eastbound track side starting just east of San Gabriel Boulevard to Muscatel Avenue – three-foot by 800-foot barrier Except for the noise barrier starting just east of Vail Avenue, the proposed mitigation for the SR 60 North Side Design Variation would be the same as for the SR 60 LRT Alternative. No noise impacts are predicted under the SR 60 North Side Design Variation between Vail Avenue and the Montebello/Monterey Park city boundary. **Vibration Mitigation Measures** As with the mitigation proposed for noise, vibration impacts due to gaps at switches may be eliminated by available options such as relocating the switches, installing ballast mats under conventional switches to decouple the train vibration from the track supporting structure, or using a gapless spring frog (see Mitigation Measure 4.9-ix). The proposed crossover east of the Santa Anita Avenue station would be relocated away from sensitive land use receptors to eliminate predicted vibration impacts due to switches at the three residences along the SR 60 LRT Alternative. No other vibration impacts are predicted along the SR 60 LRT Alternative alignment due to track switches because the switches would be strategically located as part of the advanced conceptual design to avoid impacts from rail discontinuities. Mitigation measure 4.9-ix would address the adverse vibration effects under NEPA and significant vibration impacts under CEQA.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Ecosystems/Biological Resources		
Construction Construction of the SR 60 LRT Alternative would have adverse effects under NEPA and impacts under CEQA to migratory birds if an active migratory bird nest is located in any tree or vegetation removed or disturbed during construction. The SR 60 LRT Alternative crosses the Rio Hondo at Whittier Narrows, where riparian vegetation occurs in a narrow band lining the river corridor. Impacts to this riparian vegetation would occur during construction of the new bridge supporting the aerial LRT tracks over the Rio Hondo. However, these impacts would be localized and short-term in duration, and riparian vegetation is expected to quickly become re-established following construction.	**Construction Mitigation Measures** The construction contractor and Metro shall be responsible for assuring the implementation of the following mitigation measures. 4.10-i. Construction activities that involve tree removal or trimming would be timed as much as possible by Metro to occur outside the migratory bird nesting season, which occurs generally from March 1 through August 31, and as early as February 1 for raptors. In addition, construction activities within 150 feet of the SR 60 bridge over the Rio Hondo or the bridge over the San Gabriel River would be timed to occur outside the migratory bird nesting season. 4.10-ii. If construction must occur during the nesting season, two biological surveys would be conducted by Metro, one 15 days and the second 72 hours prior to construction, that would remove or disturb suitable nesting habitat. The surveys would indicate the presence or absence of any protected native bird in the habitat to be removed and any other habitat within 300 feet of the construction work area. If a protected native bird is found, surveys would be continued in order to locate any nests. If an active nest is found, construction within 300 feet of the nest (500 feet for raptor nests) would be postponed until the nest is vacated and juveniles have fledged (minimum of six weeks after egg-laying), and there is no evidence of a second attempt at nesting. If construction at the SR 60 bridge over the Rio Hondo or the bridge over the San Gabriel River cannot be conducted outside the migratory bird nesting season, old mud nests located under the bridge would be removed by Metro prior to the start of nesting season and exclusion devices would be installed to prevent swallows or other birds from building new nests prior to February 15th of the year construction would occur. 4.10-iii. Prior to construction activities, Metro would ensure that qualified bat biologists would conduct bat surveys at the SR 60 bridges over the Rio Hondo and San Gabriel River to determine bat use patterns. Surveys would be conducted during the time of year most likely to detect bat usage (March through October). 4.10-iv. If surveys indicate the SR 60 bridges are utilized as bat roosting areas, then one of two mitigation options below would be employed by Metro to minimize disturbance and mortality to roosting bats: a) Construction at the SR 60 bridges would be conducted outside the bat roosting and breeding period (i.e., construction would occur from November 1 to March 1); or b)Bat exclusion methods to seal-up entry sites (e.g., blocking and netting or installing sonic bat deterrence equipment) would be deployed prior to March 1 of the year construction would occur. 4.10-v. During the preliminary engineering phase of the project, Metro would ensure that columns would be located to avoid wetlands and removal of trees and vegetation where feasible.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Ecosystems/Biological Resources		
Some trees, which could include protected trees, in the project area would be removed or disturbed during construction. Existing wetlands within the Rio Hondo River could be disturbed/filled as a result of project construction. **Operation** If operation of the SR 60 LRT Alternative requires the pruning of protected trees, an adverse effect could occur.	4.10-vi. If construction of the project requires removal or pruning of a protected tree, consideration by Metro of applicable municipal codes and ordinances of the city in which the affected tree is located would ensure that impacts would be less than significant. This may include replanting of protected trees within the project area or at another location to mitigate the removal of these trees. Replanting would be done at a ratio of one new tree for every one removed. **Operational Mitigation Measures** 4.10-vii. If operation of this alternative would entail pruning of any protected tree, the pruning would be performed by Metro in a manner that does not cause permanent damage or adversely affect the health of the tree.	
Geotechnical/Subsurface/Seismic/Hazardous Materials		
Construction **Geotechnical, Subsurface, Seismic Hazards** During construction, foundation installation near the toe of the existing OII landfill slope would have an adverse effect on slope stability if the landfill integrity is compromised by construction vibration. **Hazardous Materials** Construction of the SR 60 LRT Alternative alignment would pass through the OII landfill, where residual landfill material is likely present. As a result, contaminated soil, groundwater, or landfill gases could be encountered.	**Construction Mitigation Measure** **Geotechnical, Subsurface, Seismic Hazards** 4.11-i. If the SR 60 LRT Alternative is selected as the LPA, the following would be undertaken to confirm slope stability of man-placed materials on the OII Landfill site: ▪ Global stability of the refuse slope would be confirmed. ▪ Stability of the slope as influenced by foundation construction (cuts, shoring, equipment surcharge, etc.). ▪ Stability of existing features on the slope (buttress wall, utilities, etc.) as influenced by foundation construction. **Hazardous Materials** Where noted, mitigation measures unique to the North Side Design Variation would apply; otherwise the mitigation measures listed below apply to the SR 60 LRT Alternative with or without the North Side Design Variation: 4.11-ii. As part of solid waste management during construction adjacent to the South Parcel of OII Landfill, the following measures would be implemented for construction options A, B, or C by the construction contractor:	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Geotechnical/Subsurface/Seismic/Hazardous Materials		
The SR 60 LRT Alternative alignment traverses the southern side of SR 60 over the Whittier Narrows (Omega Chemical) OU, a Superfund site. As a result, contaminated groundwater could be encountered. Construction of the SR 60LRT Alternative would occur within or near other contaminated sites, which could expose workers, the public or sensitive receptors to hazardous materials in the soil and groundwater, or during building demolition. There is potential for adverse effects to occur from the accidental release of hazardous materials during the transport of soil or other media contaminated with hazardous materials to a disposal facility.	▪ Prior to construction anticipated solid (and liquid) wastes would be characterized, classified, and profiled for future handling, transportation and disposal/treatment purposes. The waste classification would be based on the results of sampling to identify the waste characteristics. The sampling and profiling would be conducted during pre-construction waste characterization, during which exploratory boreholes would be advanced at the CIDH column locations and waste, soil, and groundwater samples would be collected. In addition to collecting samples for waste characterization, the thickness and volume of the materials, the depth to groundwater, and the gas content in the subsurface would be identified. ▪ None of the solid waste removed from the construction may be placed in the OII Landfill, therefore the solid waste would require loading, transportation, and ultimately reuse or disposal. Waste segregation would likely be conducted based on the pre-construction classification. ▪ Removal of water-saturated soil would require runoff controls such as plastic sheeting drained to the toe of the landfill slope with liquid collection. Wet soil could require stabilization prior to transport. Stabilization could include mixing with a sorbent material during loading. ▪ If, through sampling, removed soil is found to contain hazardous materials, soil handling would be in compliance with applicable federal, state, and local laws and regulations regarding the handling of hazardous materials. ▪ Given that this is a Resource Conservation and Recovery Act (RCRA) and California hazardous waste project, full hazardous materials training, contractor licensing, and health and safety plans and programs would be required. Exposure to the public, workers and the environment from harmful materials would be prevented by developing the future design details appropriately, and by careful executing the future construction activities. ▪ Depending on the characterization of each waste stream, a number of disposal options exist. RCRA, non-RCRA, and California hazardous waste solids waste may be transported to a Class 1 hazardous waste treatment and disposal facility for treatment and/or permanent waste isolation. ▪ A disposal facility may be required to provide the following services for all or some of the OII Landfill waste stream: – Hazardous waste disposal. – Stabilization of inorganic wastes (e.g., metals). – Chemical oxidation treatment of organic waste.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Geotechnical/Subsurface/Seismic/Hazardous Materials		
	4.11-ii. North Side Design Variation (NSDV): Small amounts of residual landfill waste material may have been missed during the North Parcel remedy actions and could be encountered. As a contingency for this, a soil management plan would be developed prior to construction that would identify activities for residual waste monitoring, identification, segregation, and disposal. 4.11-iii. A Contaminated Soil/Groundwater Management Plan would be implemented during construction to establish procedures to follow if contamination is encountered. The plan would include the following procedures to be implemented by the construction contractor: ▪ Notification procedures and contact information for appropriate regulatory agencies; ▪ Procedures for sampling and analysis of soil and/or groundwater known or suspected to be impacted by hazardous materials; ▪ Procedures for the proper handling, storage, transport, and disposal of contaminated soil and/or groundwater, in consultation with regulatory agencies; ▪ Procedures for the proper containment of refuse or other contaminated soil and/or groundwater during construction to ensure that contamination is not transported vertically or laterally; – Dust control measures (e.g., soil wetting, wind screens) for contaminated soil; and – Groundwater collection, treatment, and discharge procedures and applicable standards. 4.11-iv. In addition to mitigation measure 4.11-iii, as part of liquid waste and groundwater management during construction adjacent to the South Parcel of OII Landfill, the following measures would be implemented for construction option A by the construction contractor (assuming displacement piles are used, dewatering would not be necessary for construction options B or C): ▪ Pre-construction characterization, which would include solid waste, geotechnical, and aquifer testing, would be required. ▪ The method of dewatering would be determined as part of the construction planning; however, the objective would be to generate as little water as possible and to capture all water for offsite transport and treatment or recycling. The dewatering effort could include temporary tankage, followed by tank truck transportation to a permitted treatment and/or recycling facility. ▪ No water would be discharged to the landfill, and no untreated water would be discharged to local storm or sewer drains.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Geotechnical/Subsurface/Seismic/Hazardous Materials		
	4.11-v. Prior to construction, a gas monitoring program would be developed to establish levels of response based on monitoring criteria developed by Metro in conjunction with USEPA and New Cure Inc. (NCI). The construction monitoring program would specify monitoring frequency, constituents and methods. It would also include a communications plan identifying the process for informing and obtaining consent from USEPA and NCI for any changes proposed to the existing gas collection activities based on observed monitoring results. The expected levels of construction gas mitigation would be: Level 1 - Gas Monitoring: ▪ Baseline and routine gas monitoring would be conducted at all existing LFG probes and GP locations. The frequency would be established in the construction monitoring program document. Monitoring data would be tracked and compared to established action levels. Example target limits for a construction gas monitoring program are provided below: – Gas temperature in excess of 140° F. – Gas temperature rise in excess of three percent per week. – Oxygen content in excess of ten percent. – Carbon monoxide in excess of 100 ppm. Level 2 - Gas Flow Reduction or Shutdown ▪ Should any of the agreed-to action levels be exceeded, the expected Level 2 response would be to reduce or eliminate LFG extraction at the affected well in addition to those on either side of the well. Gas flow rates could be controlled by the existing LFG extraction well valves. ▪ Monitoring of the nearest GP would then be increased in order to measure methane, CO2 and pressure to ensure that methane and other LFGs that would otherwise be collected from the LFG extraction wells are not increasing. Note that even with the flow reduction or shutdown of the perimeter LFG extraction wells, gas migration in the vicinity of the LRT construction project would still likely be toward active interior LFG extraction probes, where it would be eventually captured. ▪ In addition, increased methane and carbon monoxide (CO) health and safety monitoring would be conducted at the construction site, as the reduction or shutdown of the extraction wells could reduce gas protection for the workers.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Geotechnical/Subsurface/Seismic/Hazardous Materials		
Operation **Geotechnical, Subsurface, Seismic Hazards** A segment of the SR 60 LRT Alternative east of San Gabriel Boulevard is located within the Alquist-Priolo Earthquake Fault zone. There is a potential for fault rupture along this portion of the alignment. A portion of the SR 60 LRT Alternative alignment between Muscatel Avenue and the eastern terminus of the alignment including the Santa Anita Avenue and Peck Road stations are mapped in areas potentially susceptible to liquefaction and may be susceptible to seismically-induced settlement. The Mission Junction Maintenance Yard Option is located in an area potentially susceptible to liquefaction and may be susceptible to seismically-induced settlement.	Level 3 - Construction Site Engineering Controls ▪ Should temperatures continue to increase, or remain elevated prior to the completion of construction and the installation of the permanent seal/cover restoration, temporary engineering controls would be initiated at the exposed construction sites in order to prevent air leakage. Controls would be further developed during the LRT detailed design process, and may include: – Temporary flexible membrane seals that are installed around the pilings or casing during installation.Temporary flexible membrane seals that are installed over the construction pad, should the pad be cut into the landfill. Spray on foam, visqueen, gunnite, bentonite or other similar material could also be utilized to temporarily seal the construction area from gas intrusion. 4.11-v.-NSDV Landfill gas is not anticipated to be a significant issue for construction associated with the North Side Design Variation as the LRT would be constructed entirely outside of the boundaries of the OII landfill and would not penetrate the monocover. Prior to construction, a gas management plan would nonetheless be developed by the construction contractor as part of the health and safety program and gas monitoring would be conducted during any excavation or grading activities. 4.11-vi. A Worker Health and Safety Plan would be developed prior to the start of construction activities. All workers would be required to review the plan, receive training if necessary, and sign the plan prior to starting work. The plan would, at a minimum, identify the following: ▪ Properties of concern and the nature and extent of contaminants that could be encountered during excavation activities; ▪ All appropriate worker, public health, and environmental protection equipment and procedures; ▪ Emergency response procedures, including the most direct route to a hospital; and ▪ Site Safety Officer.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Geotechnical/Subsurface/Seismic/Hazardous Materials		
	Operation Mitigation Measures **Geotechnical, Subsurface, Seismic Hazards** 4.11-vii. To address hazards associated with liquefiable soils and seismically-induced settlement, further evaluation would be conducted to determine the need for mitigation based on standard design specifications. Mitigation, such as replacement of liquefiable soils with engineered fill or ground improvement methods such as grouting, would be implemented to meet design specifications. Allowable differential seismically-induced settlement up to 1 inch and 2 inches is considered appropriate for structures and embankment, respectively. 4.11-viii. For the portion of the alignment within an Alquist-Priolo Fault Zone, during the final design phase of the project, Metro would perform a fault investigation to further delineate the location of the fault zone and provide appropriate setback for the foundation support. In general, a minimum setback of 50 feet is commonly used for structures intended for human occupancy, according to the Alquist-Priolo Earthquake Fault Zoning Act.	
Hazardous Materials The SR 60 LRT Alternative would traverse the OII landfill, potentially exposing people to landfill gasses. Variation segment would be mostly at-grade; therefore, there could be adverse operational effects from vapor intrusion.	**Hazardous Materials** 4.11-ix. To address hazards associated with landfill gases at the South Parcel of the OII Landfill site, permanent seals would be incorporated and the monocover restored as necessary to prevent long-term gas leakage from the OII landfill. Additionally, as part of the long term operation of the LRT, Metro would develop operations and maintenance procedures to inspect, test, and repair the integrity of the LRT foundation seals during existing quarterly cap inspection and maintenance program conducted by NCI. 4.11-ix-NSDV. No cover inspection is applicable to the North Parcel. Should future subsurface explorations and the detailed design alter this assumption, measures similar to those mentioned under South Parcel could be considered in limited areas of the North Parcel Alignment, as appropriate.	
Water Resources		
Construction Adverse effects/significant impacts to flood control facilities during construction of the SR 60 LRT Alternative. Adverse effects/significant impacts to water quality during construction of the SR 60 LRT Alternative.	**Flooding** 4.12-i. Construction of the SR 60 LRT Alternative in the SR 60 ROW through Whittier Narrows Dam Flood Control Basin and placement of LRT columns in the flood control basin as well as construction of the proposed Santa Anita Avenue station would be modifications of the flood damage reduction structure. Approval of modifications to flood control structures would require additional coordination with USACE. Metro would submit a Section 408 permit application to USACE and would include a technical analysis of the potential impacts to the flood control basin.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Water Resources		
Adverse effects/significant impacts associated with groundwater contamination during construction of the SR 60 LRT Alternative.	This would include completion of the eight-step decision-making process under Executive Order 11988 for construction within the 100-year floodplain, as well as completion of an evaluation required under Regulation 1000-2-1 for construction within flood control basins. In addition, an evaluation would be completed as required in compliance with USACE Policy Guidance Letter No. 32 for construction on flowage easement land (at the proposed Santa Anita Avenue station). Based on these evaluations, the SR 60 LRT Alternative construction designs would incorporate all required measures related to being located within a flood control basin which could include, but are not limited to, the following: ▪ Buildings that contain utilities, records, and/or equipment shall either be flood-proofed; or ▪ Development of contingency plans for evacuation of moveable items before floods. 4.12-ii. To compensate for potential loss of flood storage capacity or alteration of flood flow direction and velocity due to placement of LRT columns in USACE and LACDPW flood control facilities, Metro would provide 83 cubic yards of compensatory mitigation to replace lost storage capacity. Compensatory mitigation for flood storage impacts would, at a minimum, replace any lost flood capacity. In addition, the Santa Anita Avenue station would be designed so that there would be no parking or storage located on the ground level and so that floodwaters could freely flow under and through the structure. In general, mitigation can occur at or below the elevation of impact. The area chosen for compensatory mitigation must be free draining (e.g., pooled water must be able to flow out of the storage area as floodwaters recede) and would comply with USACE drainage requirements. 4.12-iii. Metro would ensure that construction of the portion of the SR 60 LRT Alternative within the Whittier Narrows Flood Control Basin would be in compliance with all applicable USACE Reservoir Regulations, which could include but not be limited to preparation of an emergency evacuation plan, balanced cut and fill to retain basin storage, and limitations based upon rainy season requirements. **Water Quality** 4.12-iv. In compliance with the SWRCB's General Construction Permit (Order #2009-0009-DWQ), Metro would prepare a SWPPP that would specify properly designed, centralized storage areas that would keep these materials out of the rain. Spill cleanup materials (e.g., rags, absorbent materials, and secondary containment) would be kept at the work site when handling materials. Metro would ensure that site supervisors and workers have knowledge of the SWPPP. Therefore, site supervisors would conduct regular meetings to discuss pollution prevention. The frequency of such meetings and the personnel required to attend would be specified in the SWPPP.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Water Resources		
	4.12-v. The SWPPP would also specify a monitoring program to be implemented by the construction site supervisor and Metro and would include both dry and wet weather inspections. City personnel from each applicable jurisdiction would also conduct regular inspections to ensure compliance with the SWPPP. 4.12-vi. Metro would oversee implementation of BMPs designed to reduce erosion of exposed soil. These may include, but are not limited to: soil stabilization controls; water for dust control; perimeter silt fences; placement of straw wattles; and sediment basins. The potential for erosion is generally greater when grading is performed during the rainy season, as disturbed soil can be exposed to rainfall and storm runoff. If grading activities must take place during the rainy season, the BMPs selected would focus on erosion control and keeping sediment in place. End-of-pipe sediment control measures (e.g., basins and traps) would be used as secondary measures. Entry and egress from construction sites would be carefully controlled to minimize off-site tracking of sediment. Additional sources of information regarding BMPs include the California Storm Water Municipal and Construction Activity BMP Handbooks, as well as the California Department of Transportation's (Caltrans) Storm Water Quality Handbooks, Project Planning and Design Guide (2003). 4.12-vii. As required under the NPDES MS4 permit, specific categories of projects in jurisdictions covered by the permit must comply with the SUSMP. Metro would prepare a SUSMP that describes necessary BMPs which must be incorporated into design plans for specific categories of development and redevelopment. The proposed alternatives require compliance with the SUSMP under project category seven: parking lot 5,000 square feet or more of surface area or with 25 or more parking spaces. 4.12-viii. The Los Angeles County Building and Safety Division determines compliance of the proposed alternatives with the SUSMP through the incorporation of BMPs in drainage and grading plans. Prior to issuance of any grading or building permits, the County Building and Safety Division must approve the BMPs. The contractor would be responsible for preparing the drainage and grading plans and obtaining approval of the plans prior to the start of construction. Applicable BMPs that may be included in the drainage plan include: ▪ Oil/water separators; ▪ Catch basin inserts; ▪ Storm drain inserts;	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Water Resources		
	▪ Media filtration; and/or ▪ Catch basin screens. 4.12-ix. LARWQCB's municipal stormwater NPDES permit (Order No. 01-182 and NPDES No. CAS004001) specifies that permittees must implement a program to control runoff from construction activity. As part of this, an erosion and sediment control plan would be prepared and established by Metro prior to the initiation of construction activities. Ultimately approved by the LARWQCB, the plan would include BMPs such as the following measures as appropriate: ▪ Use of natural drainage, detention ponds, sediment ponds, or infiltration pits to allow runoff to collect and to reduce or prevent erosion; ▪ Use of barriers to direct and slow the rate of runoff and to filter out large sediments; ▪ Use of downdrains or chutes to carry runoff from the top of a slope to the bottom; and ▪ Control of the use of water for irrigation so as to avoid off-site runoff. 4.12-x. If contaminated groundwater is encountered during construction, the contractor would stop work in the vicinity, cordon off the area, contact the appropriate hazardous waste coordinator and maintenance hazardous spill coordinator at Metro, and immediately notify the Certified Unified Program Agencies (County of Los Angeles Fire Department and LARWQCB) responsible for hazardous materials and wastes. Through coordination with LARWQCB, an investigation and remediation plan would be developed in order to protect public health and the environment. The contractor would properly treat or dispose of any hazardous or toxic materials according to local, state, and federal regulations. **Operation Mitigation Measures** 4.12-xi. To compensate for potential effects to users of the transit system in the event of a flood, Metro's Procedures Plan would be executed to close the Santa Anita station and assist commuters in the event of a flood that reaches the station. 4.12-xii. A drainage control plan would be developed by Metro during project design to properly convey drainage from the project area and avoid ponding on adjacent properties. The flood capacity of existing drainage or water conveyance features would not be reduced in a way that would cause ponding or flooding during storms. Implementation of this plan would protect against localized flooding impacts during operation of the SR 60 LRT Alternative (with or without the North Side Design Variation).	
Operation Adverse effects/significant impacts to flood control facilities during operation of the SR 60 LRT Alternative. Adverse effects/significant impacts to water quality during operation of the SR 60 LRT Alternative. Adverse effects/significant impacts associated with groundwater contamination during operation of the SR 60 LRT Alternative.		

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Water Resources		
	4.12-xiii. The following permanent treatment/post-construction BMPs would be incorporated by Metro into the proposed project where needed or necessary (each of the measures below is explained in detail in Section 6.0 of Appendix W, Water Resources Technical Memorandum): ▪ Extended/dry detention basins or underground detention tanks; ▪ Infiltration basins/trenches; ▪ Bioretention facilities; ▪ Media filtration; ▪ Porous pavement; and ▪ Vegetated filter strips.	
Energy		
There are no adverse/significant energy effects/impacts associated with either construction or operation of the SR 60 LRT Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Cultural Resources		
Built Environment No adverse effects/ significant impacts to cultural resources would occur with construction or operation of the SR 60 LRT Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Archaeological Resources Construction Construction of the SR 60 LRT Alternative, with or without the SR 60 North Side Design Variation, could have the potential to disturb or destroy a significant archaeological resource.	**Construction Mitigation Measures** 4.14.2-i. Prior to any ground disturbing activities, a project-wide CRMMP would be developed and implemented by Metro. This document would address areas where potentially significant prehistoric and historic archaeological deposits are likely to be located within the proposed project area. The CRMMP would also include a detailed prehistoric and historic context that clearly demonstrates the themes under which any identified subsurface deposits would be determined significant.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Cultural Resources		
Operation No adverse effects/significant impacts to archaeological resources would occur with operation of the SR 60 LRT Alternative	4.14.2-ii. Should significant deposits be identified during earth-moving activities, the CRMMP overseen by Metro would address methods for data recovery, anticipated artifact types, artifact analysis, report writing, repatriation of human remains and associated grave goods, and curation. 4.14.2-iii. The CRMMP overseen by Metro would also require that an archaeologist qualified in prehistoric and historical archaeology be retained prior to ground-disturbing activities. 4.14.2-iv. The CRMMP overseen by Metro would be a guide for monitoring activities. If buried cultural resources, such as flaked or ground stone, historic debris, building foundations, or non-human bone, are discovered during ground-disturbing activities, work will stop in that area and within 50 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. 4.14.2-v. Metro would retain a Native American monitor if treatment involved work at a prehistoric site. Treatment measures typically include: development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation. 4.14.2-vi. If during cultural resources monitoring the qualified archaeologist determines that the sediments being excavated are previously disturbed or unlikely to contain significant cultural materials, the qualified archaeologist can specify that monitoring be reduced or eliminated. **Operation Mitigation Measures** No mitigation measures are required.	
Paleontological Resources **Construction** There could be significant impacts to unknown paleontological resources during construction activities. **Operation** No significant impacts to paleontological resources would occur with operation of the SR 60 LRT Alternative.	**Construction Mitigation Measures** 4.14.3-i. Metro shall retain a qualified paleontological monitor to monitor excavation in areas identified as likely to contain paleontological resources. These areas are defined as all areas within the proposed project site where planned excavation will exceed depths of six feet into native undisturbed sediments. 4.14.3-ii. The qualified paleontological monitor shall retain the option to reduce monitoring if, in his or her professional opinion, sediments being monitored are previously disturbed. Monitoring may also be reduced if the potentially fossiliferous units, previously described, are not found to be present or, if present, are determined by qualified paleontological personnel to have low potential to contain fossil resources.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Cultural Resources		
	4.14.3-iii. Metro would make sure that the monitor is equipped to salvage fossils and samples of sediments as they are unearthed to avoid construction delays, and empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Since older Quaternary deposits yield small fossil specimens likely to go unnoticed during typical large-scale paleontological monitoring, matrix samples shall be collected and processed to determine the potential for small fossils to be recovered prior to substantial excavations in those sediments. If this sampling indicates that these units do possess small fossils, a matrix sample of up to 6,000 pounds shall be collected at various locations, to be specified by the paleontologist, within the construction area. These matrix samples shall also be processed for small fossils. 4.14.3-iv. The paleontological monitor would make certain that recovered specimens be prepared to a point of identification and permanent preservation, including washing of sediments, to recover small invertebrates and vertebrates. 4.14.3-v. Metro would make certain that specimens shall be curated into a professional, accredited museum repository with permanent retrievable storage. A report of findings, with an appended itemized inventory of specimens, shall be prepared. The report and inventory, when submitted to Metro, will signify completion of the program to mitigate impacts to paleontological resources. **Operation Mitigation Measures** No mitigation measures are required.	
Parklands and Other Community Facilities		
Construction Access to the SR 60 ROW may occur through a driveway on South El Monte High School property during project construction, potentially disrupting vehicle, bike and pedestrian access.	**Construction Mitigation Measures** 4.15-i. Schedule construction access to the SR 60 ROW through the South El Monte High School property at times when it would not disrupt school activities. 4.15-ii. Coordinate with school district officials to ensure that viable, safe pedestrian, bicycle, and automobile routes to schools are maintained. 4.15-iii. Coordinate with local emergency response personnel in advance of any necessary street closures to ensure that service ratios and response times are not affected. 4.15-iv. Provide a temporary re-routing of the Rio Hondo (and San Gabriel River) bike path(s) if any construction-related closures are needed, in order to keep the bike path open at all times. 4.15-v. Access to the SR 60 ROW through the Whittier Narrows Recreation Area would only occur during times when the park is normally closed.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Parklands and Other Community Facilities		
Lane closures and overnight street closures along Pomona Boulevard may require detours for emergency vehicles traveling to and from the Los Angeles County Sheriff's Station located on 3rd Street. Viaduct construction may require temporary closure of the Rio Hondo Bike Path along the Whittier Narrows Recreation Area. Disruptions to park facilities may occur as a parking lot associated with Legg Lake is used to access ROW areas. Temporary tree removal may also be needed in this area as a part of project construction. **Operation** There are no adverse/significant parklands and other community facilities effects/impacts associated with operation of the SR 60 LRT Alternative.	4.15-vi. Construction within the Whittier Narrows Recreation Area, including any partial closures for construction access and staging areas, would be done in coordination with Los Angeles County Department of Parks and Recreation. 4.15-vii. Minimize temporary tree removal in the Whittier Narrows Recreation Area along the edge of the SR 60 ROW, and replace trees as quickly as possible. Tree removal would be done in coordination with Los Angeles County Department of Parks and Recreation. In accordance with the Whittier Narrows Dam Basin Master Plan, if temporarily removed trees are non-native, they would be replaced with native species. **Operation Mitigation Measures** No mitigation measures are required.	
Economic and Fiscal Impacts		
Construction Construction would have temporary impacts on commercial and industrial businesses, particularly those near or adjacent to construction sites.	**Construction Mitigation Measures** In addition to the mitigation measures identified below, mitigation measures4.5-i through 4.5-iv and 4.5-vi through 4.5-ix from Section 4.5, Community and Neighborhood Impacts and mitigation measures 3.0-ii through 3.0-xiii from Chapter 3, Transportation Impacts would be implemented. (Refer to the specific sections for the detailed mitigation measure.)	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Economic and Fiscal Impacts		
There are no long-term adverse effects associated with the economic impacts generated by construction-related capital expenditures, which includes construction and continued spending on vehicles and facilities when service is operating. Construction-related spending and job creation would last for the duration of the project's construction cycle. **Operation** There are no adverse/significant economic and fiscal effects/impacts associated with operation of the SR 60 LRT Alternative.	4.4-viii. Metro Construction Relations staff and construction personnel would contact and interview individual businesses to identify business usage, delivery, and shipping patterns, as well as critical times of the day or year for business activities, to aid in developing Worksite Traffic Control Plans and to ensure that critical business activities are not disrupted. 4.4-ix. During construction Metro would develop, fund, and maintain a telephone hotline, and one or more Metro field offices would be developed and maintained to address community issues and concerns as they arise. The office should be open on weekdays and on any weekends when work occurs. The office would provide a physical location where information pertaining to construction can be exchanged. Metro would ensure that all potentially affected persons know the name and telephone number(s) of public affairs staff whom they can contact if needed. The contractor staffing plan would be subject to Metro review. 4.4-x. Metro would participate in local events to promote awareness of the project. 4.4-xi. Metro would notify property owners, businesses, and residences of major construction activities (e.g., utility relocation or disruption and milestones and re-routing of delivery trucks). 4.4-xii. Metro would provide literature to the public and news media, schedule promotional displays, participate on community committees, and make presentations, as needed, about the project. 4.4-xiii. Metro would coordinate business outreach programs and implement promotions for businesses most affected by the construction. 4.4-xiv. Upon completion of construction, property needed for construction but not required to maintain the physical infrastructure or necessary for access would be included in a Metro Joint Development Program for possible development, and also in a report to FTA on Excess Property Management. Any joint development project would be environmentally cleared separately from this project and would undergo its own community input process. Until a development is approved, the remaining underutilized property may be used for operations-related purposes, and maintained to a standard that reflects the community's identity and character. **Operation Mitigation Measures** No mitigation measures are required.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Safety and Security		
Construction Construction of the SR 60 LRT Alternative has the potential to impact: automobile, pedestrian and bicycle safety; and emergency access routes and emergency responders. The potential for crime and terrorism during construction is related primarily to construction equipment and staging areas. Construction equipment stored at construction sites and staging areas may be attractive to theft if not adequately secured. The visibility of construction aspects of the alternative from SR 60 may encourage heightened visitation from criminals into the project area.	**Construction Mitigation Measures** 4.16-i. Metro would provide alternative walkways for pedestrians around construction staging areas where sidewalks currently exist, in accordance with Americans with Disabilities Act (ADA) requirements. 4.16-ii. Metro would sign and properly mark all pedestrian and bicycle detour locations around staging sites, in accordance with the Manual on Uniform Traffic Control Devices "work zone" guidance and other applicable local and state requirements. 4.16-iii. Metro would coordinate work plans and traffic control measures with emergency responders to prevent effects on emergency response times. 4.16-iv. Metro would develop a Construction Mitigation Program during final design and implement the program during construction. The program would guide Metro in obtaining input from residents and businesses affected during construction, and in communicating with the community regarding traffic control measures, the schedule of activities, and the duration of operations. 4.16-v. Metro would coordinate with and notify the Los Angeles Unified School District (LAUSD), Montebello USD, El Rancho USD, Whittier Union High/Los Nietos Elementary, Whittier Union High/Whittier City Elementary, and El Monte Union High/Valle Indo Elementary as well as individual school administrators to ensure that safe and convenient pedestrian and bicycle routes to schools are maintained. This would include the publication and distribution of school pedestrian and bicycle route maps. 4.16-vi. Metro would provide sufficient notices to forewarn students and parents when school pedestrian and bicycle routes are affected by construction. 4.16-vii. Metro would notify LAUSD and other local unified school districts of impending impacts on existing school bus routes. 4.16-viii. Metro would inform the public, including LAUSD and other local unified school districts, of bus stops that will be abandoned or changed during or after construction of the LRT line. 4.16-ix. Metro would provide security at the construction sites and staging areas in the form of barriers at excavation sites, installation of temporary fencing, security patrols, and appropriate signage and lighting. 4.16-x. Metro would assess and coordinate with police and fire service providers prior to and during construction to share daily construction schedules and how emergency services would serve the area during periods of construction.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Safety and Security		
Operation The project has the potential to attract crime. Pedestrian safety could be compromised at stations, designated grade crossings, and near at-grade segments of the trackway. There is the potential for motor vehicle/light rail collisions associated with the SR 60 LRT Alternative. Aerial portions of the alternative require support columns, which would create shadows and would create hiding places along SR 60 that may add to crime problems in the area.	4.16-xi. Temporary evacuation plans would be developed by Metro and put in place for areas that are temporarily affected by construction activities, such as the overnight closure of a roadway or other temporary detours that may affect evacuation plans. In addition, public events would be taken into consideration when planning construction activities to ensure safety of workers, participants, Metro patrons, and other members of the public. **Operation Mitigation Measures** All proposed mitigation measures regarding safety and security would be developed in conformance with Metro's Rail Transit Design Criteria and Standards, Fire/Life Safety Criteria, Volume IX. These criteria specifically address fire protection requirements for the design and construction of LRT systems. The criteria identify and discuss fire safety as it corresponds to the following specific design elements: station and guideway facilities, passenger vehicles, vehicle and maintenance yards, system fire/life safety procedures, communications, rail operations control, and inspection, maintenance and training. The criteria establish minimum requirements that would provide for the protection of life and property from the effects of fire. Proposed safety and security mitigation recommendations would be based on the results of, and become a part of, the Threat and Vulnerability Assessment that will be conducted for the locally preferred alternative when one is selected. These security measures may include: ▪ A CCTV system ▪ Emergency push-button call system for patrons ▪ Intrusion detection system ▪ Dedicated security patrol protocols and procedures ▪ Employing "Crime Prevention through Environmental Design" principles during the design phase The following mitigation measures apply to at-grade or aerial portions of the alignment. 4.16-xii. To reduce the risk of collisions between LRVs and automobiles on the street portion of the proposed alignments, Metro would coordinate with the CPUC, the Los Angeles County Department of Public Works and its traffic and lighting division, and the city and county fire departments, and would also comply with the Federal Highway Administration's Manual on Uniform Traffic Control Devices for signing and pavement marking treatments. 4.16-xiii. Metro would ensure that all stations are lighted to avoid or minimize shadows, and all pedestrian pathways leading to and from sidewalks and parking facilities would be well illuminated. Lighting would also provide excellent visibility for train operators and enable them to react to possible conflicts, especially with pedestrians crossing the track.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Safety and Security		
	4.16-xiv. Metro's proposed station designs would not include design elements that obstruct visibility or observation or provide discrete locations favorable to crime. Pedestrian access to at-grade stations would be at ground level with clear sight lines. 4.16-xv. Sidewalk widths and placements would be designed appropriately by Metro to accommodate a wide variety of users. In areas directly adjacent to the rail stations, 1) sidewalks would be designed using the widest dimensions feasible (with widths exceeding ten feet) in conformance with Metro's adopted Land Use/Transportation Policy; 2) minimum widths would not be less than those allowed by the State of California Title 24 access requirements of 48 inches, or the ADA design recommendations of 60 inches; 3) accommodating pedestrian movements and flows would take priority over other transportation improvements, including automobile access; and 4) physical improvements would ensure that all stations are fully accessible, as defined in the ADA. 4.16-xvi. Adequate pedestrian queuing and refuge areas and wide crosswalks would be provided by Metro in areas immediately adjacent to proposed stations and park and ride facilities to promote pedestrian safety and mobility. 4.16-xvii. The Metro Fire/Life Safety Committee has developed standard safety-related design criteria to ensure adequate LRT operation in and around LRT stations. These include: 1) fire alarm protection within the station area, 2) a minimum of two fire emergency routes from each proposed station, 3) emergency ventilation and lighting, 4) communication systems between adjoining fire agencies, and 5) a methane detection system for each proposed station. 4.16-xviii. Metro would ensure that building construction for stations would not be less than Type I Construction as defined in the Uniform Building Code (UBC). For portions of the alignment where pedestrians or motor vehicles must cross the tracks, Metro would design crossings in accordance with CPUC and local public agency requirements. 4.16-xix. All proposed LRT stations and related park and ride facilities would be equipped with monitoring equipment, be monitored by Metro security personnel on a regular basis, or both. 4.16-xx. Metro would implement a security plan for LRT operations. The plan would include both in-car and station surveillance by Metro security or other local jurisdiction security personnel. 4.16-xxi. Prior to project opening, Metro would coordinate and consult with the LACSD and local municipal police departments to develop safety and security plans for the proposed alignment, park and ride facilities, and station areas. 4.16-xxii. Metro would continue to provide security services to cover the Eastside Transit Corridor Phase 2 Project.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
SR 60 LRT Alternative		
Safety and Security		
	4.16-xxiii. Fire separations would be provided and maintained by Metro in public occupancy areas. Station public occupancy would be separated from station ancillary occupancy by a minimum 2-hour fire-rated wall. The only exception is that a maximum of two station agents, supervisors, or information booths may be located within station public occupancy areas when constructed of approved non-combustible materials and limited in floor area to 100 square feet. 4.16-xxiv. The diverse needs of different types of travelers, including students, senior citizens, disabled citizens, and low-income citizens, would be addressed through a formal educational and outreach campaign conducted by Metro prior to and during project operation. The campaign would target these diverse community members to educate them on proper system use and on the benefits of riding LRT. 4.16-xxv. Metro would control all site access to maintenance yard(s) with an on-site guard and security team. Metro would place fencing around the perimeter of the maintenance yard(s) to prevent access by unauthorized individuals. The yard(s) would also include adequate lighting throughout.	
Environmental Justice		
Construction The SR 60 LRT Alternative would not result in any disproportionate adverse effects to low-income and minority populations during construction. **Operation** The SR 60 LRT Alternative would not result in any disproportionate adverse effects to low-income and minority populations during operation.	**Construction Mitigation Measures** Although no disproportionate adverse effects to low-income and minority populations would occur, construction mitigation measures identified for the environmental resources would apply to affected low-income and minority populations. **Operation Mitigation Measures** Although no disproportionate adverse effects to low-income and minority populations would occur, operation mitigation measures identified for the environmental resources would apply to affected low-income and minority populations.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Transportation Impacts		
Construction Transit operation would be disrupted during construction. Traffic mobility would be disrupted and/or impeded by construction vehicles and equipment in the areas of construction. Vehicular travel time and intersection operation would be impacted. Freeway ramps (each eastbound on- and off-ramp from Atlantic Blvd. to Garfield Ave.) would be temporarily closed during construction. Construction of the San Gabriel River/I-605 aerial crossing would involve temporary reduction in lane and shoulder widths and several overnight closures of the I-605 Freeway mainline, with one direction closed at a time. During construction, off-street parking would be utilized for construction activities. On-street parking spaces and loading areas may need to be temporarily removed during construction. Pedestrian circulation would be disrupted during construction. Bicycle circulation would be disrupted during construction.	**Construction Mitigation Measures** The same mitigation measures described above for the SR 60 LRT Alternative (mitigation measure 3.0-ii through 3.0-iv) would also apply to the Washington Boulevard LRT Alternative relative to transit, intersections, freeway off-ramps, parking, pedestrian circulation, and bicycle circulation. **Freeway off-ramps** 3.0-xvii. The San Gabriel River/I-605 aerial crossing would have additional temporary adverse effects under NEPA and significant impacts under CEQA to the I-605 Freeway mainline. To mitigate this potential impact, public notice of all freeway closures would be provided and detour routes would be indicated. With this mitigation measure, since the freeway closures would be temporary in nature, the public would be notified in advance and detour routes would be provided; the closures would not cause an adverse effect under NEPA or a significant impact under CEQA to operations. Freeway closures would occur overnight or on weekends when traffic volume is minimal. The other construction mitigation measures discussed under mitigation measures 3-0-ii through 3.0-iv would apply equally to the San Gabriel River/I-605 aerial crossing. **Parking** The mitigation measures described above for the SR 60 LRT Alternative (mitigation measure 3.0-ii and 3.0-ix) would also apply to the Washington Boulevard LRT Alternative. **Pedestrian Circulation** The mitigation measures described above for the SR 60 LRT Alternative (mitigation measure 3.0-x and 3.0-xi) would also apply to the Washington Boulevard LRT Alternative. **Bicycle Circulation** The same mitigation measures described above for the SR 60 LRT Alternative (mitigation measure 3.0-ii, 3.0-xii, and 3.0-xiii) would also apply to the Washington Boulevard LRT Alternative. **Operation Mitigation Measures** **Intersections** Potential improvements were applied to the adversely affected intersections in the following order: ▪ Optimized signal splits and manually altered green times, if necessary; ▪ Increase the cycle length; ▪ Update signal phasing; and ▪ Lane configuration changes, such as restriping turning, through, and parking lanes at the affected intersections where feasible.	Unavoidable adverse/significant operation-related effect/impact at 16 intersections All other impacts would not be adverse/less than significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Transportation Impacts		
Operation Seventeen intersections would be would be substantially adversely effected by operation of the Washington Boulevard LRT Alternative. This alternative would require the elimination of existing off-street parking facilities near each of the proposed stations, which would result in spillover parking to the surrounding streets and potential for use of other nearby off-street facilities. The transition of the LRT service between the median alignment along Washington Boulevard and the Santa Fe Springs Maintenance Yard Option would impact intersection operation and create a conflict between the LRT and pedestrians when the LRT is accessing the maintenance yard. The reduction in travel lanes east of Montebello Boulevard could create conflicts between bicycle and automobile traffic along the at-grade segment of the alignment.	3.0-xviii. With the implementation of the following mitigation measures, the adverse effect under NEPA and significant impacts under CEQA at the following intersection would be mitigated. Montebello Boulevard/Washington Boulevard: AM peak hour (#31): Optimizing signal splits and providing additional green time to approaches with long vehicle queues and high delay would be provided at this intersection. For the 16 remaining intersections, additional mitigation measures were investigated to improve conditions. Further mitigation measures, such as lane configuration changes that would increase capacity of the roadways or restrictions in allowable turning movements, were considered infeasible due to ROW constraints or secondary effects to upstream and downstream locations. **Parking** 3.0-xix. For parcels that would be affected by the acquisition of parking, replacement parking would be provided at the parcel or at a nearby assemblage of parcels. Shared-use parking arrangements would be considered within new Metro facilities. Metro would work with local jurisdictions, businesses and merchants, and commerce associations to implement potential parking mitigation options to help offset losses during operation. **Pedestrian Circulation** 3.0-xx. Additional enhancement to the existing crosswalks at each proposed station location would be implemented to further improve pedestrian circulation. 3.0-xxi. Where park and ride structures are introduced at stations, new signalized and clearly marked walkways would be necessary for pedestrian circulation to and from the parking facilities and station entrances. For example, new at-grade crosswalks with marked pavement and flashing crossing lights would help to address potential conflicts with pedestrians. 3.0-xxii. Metro would prepare a Community Linkages Study that would document preferred pedestrian access to each station, general pedestrian circulation in the immediate vicinity of the station, and potential sites for connections to nearby bus services. The purpose of this study would include ensuring sufficient circulation, access, and information important to users of the transit system. The results of the study would be implemented through coordination between Metro and local jurisdictions. In addition, other techniques to increase pedestrian safety may be implemented, such as educational programs for local businesses, marketing and advertising campaigns, and consistent signage. Programs would be instituted via a combination of outreach strategies and information available on the Metro website.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Transportation Impacts		
	Bicycle Circulation 3.0-xxiii. Enhanced striping and pavement markings would help to clearly mark the flow of bicycle circulation on Washington Boulevard. As part of the Community Linkages Study discussed under mitigation measure 3.0-xxii, Metro would document bicycle network improvements. Identification and enhancement of alternative bike routes on parallel streets would be documented as part of the study. Metro would also document bicycle parking at each of the proposed stations.	
Displacement and Relocation Impacts		
Construction The construction of the Washington Boulevard LRT Alternative (both the at-grade and aerial crossings of Rosemead Boulevard and San Gabriel River/I-605) would require acquisition of 65 parcels, including partial acquisition as easements of 5 parcels, partial acquisition in fee of 6 parcels, and full acquisition of 54 parcels. The Washington Boulevard LRT Alternative would result in an adverse effect on 935 off-street parking spaces, which would require replacement parking. A total of 58 businesses and 633 employees would be displaced as a result of the Washington Boulevard LRT Alternative. The Washington Boulevard LRT Alternative would displace a total of 9 residential units and 30 people.	**Construction Mitigation Measures** In addition to the mitigation measures below, the mitigation measures described above for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative (See mitigation measures 4.3-i through 4.3-iii). 4.3-iv. Metro would work with local jurisdictions, merchants, other businesses and commerce associations to implement parking mitigation (e.g., including, but not limited to, creating temporary one-way streets to provide diagonal parking; convert police and fire preferential parking to permit parking; lease an existing garage; provided temporary metered parking; or provide motorist wayfinding signs to find parking facilities) to help offset losses during construction and operation. Metro would provide relocation assistance and compensation to businesses and residents as required by both the Uniform Act and the California Act. Where acquisitions and relocations are unavoidable, FTA and Metro would follow the provisions of both acts and their amendments. All real property acquired by Metro would be appraised to determine its fair market value (FMV). Just compensation, which would not be less than the approved appraisal, would be made to each property owner and holder of a property interest. 4.3-v. All businesses, persons, and occupants displaced as a result of the project would be given advance written notice by Metro and informed of their eligibility for relocation assistance and payments. It is anticipated that where business relocation is required, the displaced jobs would be retained with the relocation or reestablished at other sites in the project area. Commercial vacancy rates and available comparable sites within the cities in which the identified parcel acquisitions would occur would be reviewed to confirm that relocation could be accommodated within the existing building inventory. In the project area and region, there are expected to be sufficient available sites and commercial space suitable for affected businesses to be relocated. Recognizing that the horizon year for the project is 2035, the ease of relocation would be affected by the fluctuations of the marketplace and space availability at the actual time of relocation.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Displacement and Relocation Impacts		
The 12-acre Commerce Maintenance Yard Option would require the partial acquisition of six privately-owned properties. The 12-acre Commerce Maintenance Yard Option would require the partial acquisition of eight UPRR-owned properties. There are no businesses or residences located in the UPRR-owned parcels. The Santa Fe Springs Maintenance Yard Option would require the full acquisition of 17 private property parcels. A total of 17 businesses and 144 employees would be displaced as a result of the Santa Fe Springs Maintenance Yard Option. **Operation** There are no adverse/significant displacement and relocation effects/impacts associated with operation of the Washington Boulevard LRT Alternative.	4.3-vi. Metro would provide housing relocation and assistance per the Uniform Act and the California Act. **Operation Mitigation Measures** No mitigation measures are required.	
Land Use and Development Impacts		
Construction Surrounding land uses could be disrupted while construction activities are performed.	**Construction Mitigation Measures** The following mitigation measures from Chapter 3, Transportation Impacts, Section 4.7, Air Quality, and Section 4.9, Noise and Vibration would be implemented: 3.0-ii, 3.0-iv through 3.0-vi, 3.0-viii, 3.0-x, 3.0-xi, 3.0-xvii, 4.7-i, and 4.9-i through 4.9-viii. (Refer to the specific section for the detailed mitigation measure.)	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Land Use and Development Impacts		
Construction of the Washington Boulevard LRT Alternative could generate temporary pedestrian and vehicle detours that would inhibit, but not prevent, access to existing land uses along the alignment. **Operation** There are no adverse/significant land use and development effects/impacts associated with operation of the Washington Boulevard LRT Alternative.	**Operation Mitigation Measures** No mitigation measures are required.	
Community and Neighborhood Impacts		
Construction Community disruption could occur while construction activities are performed. Residential areas adjacent to Garfield Avenue and Washington Boulevard would experience intermittent construction noise. Tree removal would be necessary along the southern edge of SR 60 between Sadler Avenue and Garfield Avenue, which would subject adjacent residential communities to greater freeway exposure.	**Construction Mitigation Measures** Mitigation measure 4.10-vi from Section 4.10, Ecosystems and Biological Resources would be implemented. (Please refer to the specific section for the detailed mitigation measure.) The construction mitigation measures described for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative. (Please refer to mitigation measures 4.5-i through 4.5-xiv and 3.0-ii through 3.0-xiii from Chapter 3, Transportation Impacts and Mitigation.) **Operation Mitigation Measures** The operation mitigation measures described for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative (See mitigation measures 4.5-i through 4.5-xiv) and mitigation measures 3.0-xix through 3.3-xxiii from Chapter 3, Transportation Impacts and Mitigation. 4.5-xv. Metro would replace or relocate the trees from the median of Washington Boulevard in the Rio Hondo Coastal Basin Spreading Grounds to the sides of the roadway. Some new trees would need to be introduced in order to provide an adequate density of trees on both sides of the street.	Unavoidable adverse operation-related effects to social/physical character and community resources/events /Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Community and Neighborhood Impacts		
Construction would require intermittent road and sidewalk closures, and would add construction equipment and vehicles to local roadways, which would disrupt traffic patterns and make access to community resources and events more difficult. Construction sites can sometimes become attractive venues for loitering and illegal activity. Construction would likely result in a temporary decrease in accessibility to some businesses and reductions in on-street and off-street parking, which could result in adverse effects. Vehicle and pedestrian mobility would be reduced during construction due to intermittent road and sidewalk closures and detours. This potential impact would be adverse during the construction phase. Street and sidewalk closures during construction could temporarily exacerbate the dividing effect that SR 60 currently has between	4.5-xvi. Metro would replace or relocate the palm trees from the median of Washington Boulevard between Allport and Appledale Avenues to the sides of the roadway. In order to re-create the visual effect of the evenly spaced row of trees that currently exists in the median along both sides of the street, some new trees would be needed.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Community and Neighborhood Impacts		
Montebello and Monterey Park. Other temporary divisions would occur along the alignment. **Operation** The proposed infrastructure changes the appearance of the neighborhood and its primary arterial thoroughfare. This alternative would alter the social and physical character of the existing community along Garfield Avenue in Montebello between Via Campo and Whittier Boulevard and between Via Campo and Beverly Boulevard. The removal of the street-fronting restaurants on the east side of Garfield Avenue just south of Via Campo (including the Chinese Garden restaurant) would further contribute to changing the physical and social character of the area.Where Washington Boulevard passes through the Rio Hondo Coastal Basin Spreading Grounds, the removal of the trees in the median would be required.		

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Community and Neighborhood Impacts		
LRT grade crossings can potentially delay emergency vehicles if they arrive at the same time as a passing train. Metro would coordinate with emergency response officials when designing grade crossings to ensure that emergency response times do not deteriorate as a result of the project. LRT stations and facilities can be perceived as potential safety hazards and attractive locations for illegal activities, which could result in adverse effects. At the northern edge of Santa Fe Springs, the palm trees in the median of Washington Boulevard between Allport and Appledale Avenues would be removed to accommodate the new at-grade LRT tracks.		
Visual and Aesthetic Impacts		
Construction No officially designated scenic vistas exist within the project area. Background views of downtown Los Angeles from Washington Boulevard would be blocked by construction activities.	**Construction Mitigation Measures** The construction mitigation measures (mitigation measures 4.6-i through 4.6-ix) described for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative.	Unavoidable adverse/significant visual and shade and shadow effects/impacts

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Visual and Aesthetic Impacts		
However, the downtown Los Angeles skyline is only visible form Washington Boulevard on clear days. Vistas of the San Gabriel Mountains and Puente Hills to the north and east, respectively, would not be substantially obstructed during construction. Construction activities may temporarily alter the visual character along the corridor of the corridor for a limited duration. **Operational** Through one segment along Garfield Avenue and at two select locations on Washington Boulevard, existing mature trees would be removed. The introduction of an aerial guideway and columns along Garfield Avenue between Via Campo and Whittier Boulevard would alter the visual character within the existing residential neighborhood such that significant impacts would occur. The removal of mature trees along the median of Washington Boulevard through the Rio Hondo Coastal Basin Spreading Grounds would have the potential to result in a significant visual impact.	**Operation Mitigation Measures** While there is no mitigation that would enable the light rail components of the build alternatives to become inconspicuous, implementation of the following mitigation measures, including mitigation measure 4.6-x would reduce the changes to the visual attributes of the surrounding neighborhoods and potentially reduce the severity of adverse visual impacts identified for sensitive land uses along Garfield Avenue between Via Campo and Whittier Boulevard. Thus, mitigation measure 4.6-x, described under the SR 60 LRT Alternative, would also apply to the Washington Boulevard LRT Alternative. 4.6-xi. Existing mature trees that are removed to accommodate LRT components would be preserved and relocated close to their original location by Metro, where feasible. Where practical and appropriate, additional landscape treatments comparable in design to those along the Metro Gold Line Eastside Extension, and consistent with city policies, would be installed by Metro. 4.6-xii. To ensure privacy, screen fencing on the aerial guideway would be provided by the construction contractor to block direct views of homes visible from aerial stations. Aesthetic treatments on screen fencing would be used in order to deter graffiti and vandalism and provide visual attractiveness for the residences. 4.6-xiii. Proposed stations and associated park and ride facilities along street frontages would be visually screened by Metro with landscape buffers which may include a combination of plantings, decorative fencing, planters, and public art. 4.6-xiv. Light source shielding (e.g., canopies, landscaping, and walls) would be installed by Metro on light fixtures in order to cut off the view angle and limit spillover light and glare to residential areas. A lighting plan would be developed with community input during final design. 4.6-xv. Coordination with utility providers would be conducted by Metro to consolidate existing overhead utility wires with an overhead catenary system (OCS) or place existing wires underground, where appropriate, in order to reduce visual clutter in residential areas. 4.6-xvi. Canopies, fencing, and wayfinding signage would be pedestrian-scaled. Signs would also be coated with anti-graffiti coating (easily washable) to deter and discourage graffiti artists. Graffiti removal efforts would be based upon a graffiti control program created and operated by Metro. 4.6-xvii. In locations where project components (i.e., columns, bents, aerial crossings, and retaining walls) are too large to apply minimizing techniques, sensitive "showcasing" of the components would be used by Metro, where practical and appropriate. Showcasing may include, but would not be limited to, decorative lighting, installing texture on project components, relief designs, and contextual art features.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Visual and Aesthetic Impacts		
New nighttime lighting associated with the six stations and with the LRVs would be introduced into the project area. During Summer Solstice, multi-family residences along Garfield Avenue would be impacted by shadows created by the aerial guideway constructed along Garfield Avenue. During the Winter Solstice, the Our Lady of Miraculous Medal Church and adjacent multi-family residences along Garfield Avenue, the former Rod's Grill Coffee Shop and adjacent multi-family residences along Garfield Avenue, and the multi-family residences across the street from Cantwell-Sacred Heart of Mary High School would be impacted by shadows created by the aerial guideway.	4.6-xviii. Before final design, Metro would coordinate with the cities and communities during the station area planning process to develop guidelines for incorporating design features in and around station areas. Design guidelines include, but are not limited to, conservation of historical character and structures; promotion of a sense of place, safety, and walkability by providing public design features, uniform signage, and lighting schemes consistent with the surrounding neighborhood character; reduction of the massing and profile of the rail structure, where possible; and incorporation of design features in all walls, structures, and fences to improve appearance and reduce visual intrusion. 4.6-xix. Conformance with the following city design guidelines, to the maximum extent practicable, would be incorporated in the project by Metro. ▪ Pico Rivera – provide well-designed parking facilities that are safe, convenient, and attractive; lighting fixtures would be integrated into the visual environment with an appropriate architectural theme. ▪ Montebello – add visual interest to the street scene by creating a safe and inviting environment for pedestrian and bicycle mobility with tree-lined streets and drought-tolerant landscaping. ▪ Monterey Park – avoid sign clutter within commercial districts and achieve an overall sense of community through coordinated design standards. ▪ Los Angeles County – implement a streetscape beautification program to influence the number of people willing to ride as an alternative to driving. People are likely to walk or ride farther and more often when the streetscape offers more attractions and when they feel comfortable and secure.	
Air Quality		
Construction If the Mission Junction maintenance yard option is selected, regional construction emissions for the SR 60 LRT Alternative would exceed the PM_{10} localized significance thresholds (LST) for this yard.	**Construction Mitigation Measures** The construction mitigation measures (see Mitigation Measures 4.7-ii through 4.7-iii) described for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Air Quality		
Operation Operational emissions associated with the Washington Boulevard LRT Alternative include emissions from highway traffic, transit buses, a light rail maintenance yard, and parking lots. All operational emission impacts would be less than significant.	**Operation Mitigation Measures** No mitigation measures are required.	
Climate Change		
There are no adverse/significant climate change effects/impacts associated with either construction or operation of the Washington Boulevard LRT Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant
Noise and Vibration		
Construction Construction activities are predicted to exceed the FTA daytime noise limits at only the closest residences and commercial properties to station and guideway construction.	**Construction Mitigation Measures** The mitigation measures (see Mitigation Measures 4.9-i through 4.9-viii, including Mitigation Measures 3.0-ii through 3.0-vii in Chapter 3) described for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative. In addition, per Mitigation Measures 3.0-ii through 3.0-viii and 3.0-xvii in Chapter 3, a Traffic Management Plan would also address noise and vibration effects/impacts from traffic and freeway operations during construction of the Washington Boulevard LRT Alternative. **Operation Mitigation Measures** **Noise Mitigation Measures** The Washington Boulevard LRT Alternative would have adverse effects under NEPA and a significant impact under CEQA from noise effects/impacts due to gaps at switches. These effects/impacts may be eliminated in any number of ways such as relocating the switches (which are a crossover component), installing ballast mats under conventional switches to decouple the train vibration from the track supporting structure, or using a gapless spring frog.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Noise and Vibration		
The distances at which an exceedance of the FTA vibration damage criterion of 0.2 inches per second (ips) would occur (for typical timber and masonry residential structures) ranges from 15 feet for trucks to 20 feet for bulldozers to 35 feet for vibratory rollers. Construction activities are predicted to exceed the FTA vibration infrequent annoyance criterion at only the closest residences and commercial properties. **Operation** Along the Washington Boulevard LRT Alternative alignment, severe operational noise impacts are predicted at one residence. Adverse vibration effects from operations of the Washington Boulevard LRT Alternative are predicted at 31 residences and one education facility Two fewer vibration impacts are predicted for the Rosemead Boulevard and the San Gabriel River/I-605 aerial crossing options near Site M15 at Milna Avenue.	4.9-xi. Relocating switches away from noise-sensitive receptors is one cost-effective measure for mitigating this impact. However, if operational concerns interfere with the relocation of switches, then several other viable mitigation options are available such as point-less switches (gapless spring frogs that eliminate the gap in the rail) or low-vibration isolators (ballast mats or tie pads) such as have been used on the San Diego Trolley system. The following crossovers would be relocated away from sensitive land use receptors to eliminate noise impacts due to switches. ▪ Relocate crossover proposed along Garfield Avenue south of Via San Del Aro. ▪ Relocate crossover proposed along Garfield Avenue north of Madison Avenue. ▪ Relocate crossover proposed along Washington Boulevard west of Crossway Drive. ▪ Relocate crossover proposed along Washington Boulevard east of Pioneer Boulevard. ▪ Relocate crossover proposed along Washington Boulevard west of Lambert Road. 4.9-xii. For noise impacts due to LRV passbys along tangent aerial track sections, parapets are recommended in lieu of safety railings as part of the alignment to provide additional shielding for nearby residences. Parapets would be used at the following locations to eliminate noise impacts from LRV passbys: ▪ Eastbound track side starting east of Sadler Avenue to just east of Findlay Avenue – three-foot by 2,500-foot barrier ▪ Westbound track side starting at Via Alta Mira to just west of Via Acosta – three-foot by 1,500-foot barrier ▪ Eastbound track side starting just west of Via San Del Aro to Via Acosta – three-foot by 1,300-foot barrier ▪ Westbound track side starting at Hay Street to Madison Avenue – three-foot by 900-foot barrier ▪ Eastbound and westbound track side starting west of Alston Street to the Union Pacific Railroad – three-foot by 2,500-foot barrier ▪ Westbound track side adjacent to the Greenwood Avenue station – three-foot by 200-foot barrier	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Noise and Vibration		
	▪ Moderate noise impacts predicted along at-grade sections of the Washington Boulevard LRT Alternative would require consideration and adoption of mitigation measures when it is considered reasonable according to FTA guidelines. The use of noise barriers would not be as effective along the aerial sections due to the required openings at street crossings. Other mitigation measures (such as residential sound insulation) may not be cost-effective since many of the impacts are predicted to equal or only slightly exceed the moderate thresholds. Furthermore, all of the predicted noise levels along the Washington Boulevard LRT Alternative alignment are well below the measured existing ambient noise levels. 4.9-xiii. For impacts due to at-grade crossings, specifically LRT warning bells, stationary control measures are proposed to eliminate the required sounding of the LRT warning bells. Based on the current operating procedures along the Gold Line, in-street running transit service includes synchronized traffic lights. As a result, regular use of warning bells (both stationary and on board trains) is not required. Therefore, the current operating procedures would eliminate the need to sound warning horns. These control measures are an effective tool for mitigating noise impacts from LRT warning bells, particularly during the nighttime when residents are most sensitive to noise intrusion. **Vibration Mitigation Measures** As with the mitigation proposed for noise, vibration impacts due to gaps at switches may be eliminated by available options such as relocating the switches, installing ballast mats under conventional switches to decouple the train vibration from the track supporting structure, or using a gapless spring frog. The crossovers described in Mitigation Measure 4.9-xi would be relocated away from sensitive land use receptors to eliminate the predicted vibration impacts due to switches along the Washington Boulevard LRT Alternative alignment. Mitigation Measure 4.9-xi would address the adverse vibration effects under NEPA and significant vibration impacts under CEQA.	
Ecosystems/Biological Resources		
Construction Construction of the Washington Boulevard LRT Alternative would have adverse effects under NEPA and impacts under CEQA to migratory birds if an active migratory bird nest is located in any tree or vegetation removed	**Construction Mitigation Measures** The construction contractor and Metro shall be responsible for the mitigation measures described under Ecosystems/Biological Resources for the SR 60 LRT Alternative as it relates to the construction of the Washington Boulevard LRT Alternative, with the exception of mitigation measures 4.10-iii and 4.10-iv. These mitigation measures are specific to bats under the SR 60 bridge over the Rio Hondo, which the Washington Boulevard LRT alignment does not cross.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Ecosystems/Biological Resources		
or disturbed during construction. Some trees, which could include protected trees, in the project area would be removed or disturbed during construction. **Operation** If operation of the Washington Boulevard LRT Alternative requires the pruning of protected trees, an adverse effect could occur.	**Operational Mitigation Measures** The construction contractor and Metro shall be responsible for the mitigation measure (mitigation measure 4.10-vii.) described for the SR 60 LRT Alternative as it related to the construction of the Washington Boulevard LRT Alternative.	
Geotechnical/Subsurface/Seismic/Hazardous Materials		
Geotechnical, Subsurface, Seismic Hazards **Construction** There are no adverse/significant geotechnical/subsurface/seismic effects/impacts associated with construction of the Washington Boulevard LRT Alternative. **Operation** There is the potential for liquefaction in the portion of the proposed alignment along Washington Boulevard underlain by young alluvial fan deposits from South Bluff Road to the eastern terminus of the alignment.	**Construction Mitigation Measures** No mitigation measures are required. **Operation Mitigation Measures** Mitigation measure 4.11-vii identified for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative during operation related to geotechnical, subsurface and/or seismic hazards.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Geotechnical/Subsurface/Seismic/Hazardous Materials		
The proposed Santa Fe Springs Maintenance Yard Option at the intersection of Washington Boulevard and Allport Avenue, proposed stations at Rosemead Boulevard, Norwalk Boulevard, and Lambert Road, and the associated park and ride are within a mapped liquefaction zone. The at-grade segment of the Washington Boulevard LRT Alternative alignment is underlain by young alluvial fan deposits that are potentially loose and compressible when subjected to additional loading. **Hazardous Materials Construction** The eastern end of the Washington Boulevard LRT Alternative overlies a portion of the Omega OU2 groundwater plume, therefore, there is potential for intrusion of vapors from the groundwater plume into at-grade structures.	**Construction Mitigation Measures** Mitigation measures 4.11-iii and 4.11-vi identified above for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative during construction related to hazardous materials. **Operation Mitigation Measures** Mitigation measure 4.11-vii identified above for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative during operation related to geotechnical, subsurface and/or seismic hazards. 4.11-x. To address hazards associated with vapor intrusion from contaminated soil and/or groundwater at locations near the Omega OU1 and OU2 sites, further investigation would be conducted during final design to determine the need for mitigation based on human health risk-based criteria established by the California Department of Toxic Substances Control. If required, any new buildings would be constructed with vapor barriers or other design elements.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Geotechnical/Subsurface/Seismic/Hazardous Materials		
Construction of the Washington Boulevard LRT Alternative would occur within or near other contaminated sites, which could expose sensitive receptors to hazardous materials in the soil and groundwater, subsurface gasses, or during building demolition. There is potential for adverse effects to occur from the accidental release of hazardous materials during the transport of soil or other media contaminated with hazardous materials to a disposal facility. **Operation** There is potential for vapor intrusion into any newly constructed buildings on contaminated soil and/or groundwater at locations near the Omega Chemical OU1 and OU2 site.		
Water Resources		
Construction Adverse effects/significant impacts to flood control facilities during construction of the Washington Boulevard LRT Alternative.	**Construction Mitigation Measures** The mitigation measures described above under Water Resources for the SR 60 LRT Alternative (except for mitigation measures 4.12-i through 4.12-iii and 4.12-xi) would also apply to the Washington Boulevard LRT Alternative, in addition to the following.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Water Resources		
Adverse effects/significant impacts to watersheds and surface water resources during construction of the Washington Boulevard LRT Alternative. Adverse effects/significant impacts to water quality during construction of the Washington Boulevard LRT Alternative. **Operation** Adverse effects/significant impacts to flood control facilities during operation of the Washington Boulevard LRT Alternative. Adverse effects/significant impacts to water quality during operation of the Washington Boulevard LRT Alternative. Adverse effects/significant impacts associated with groundwater contamination during operation of the Washington Boulevard LRT Alternative.	4.12-xiv. Should reinforcement of the existing support columns located inside the Rio Hondo and San Gabriel River channels become necessary during the final design phase of this alternative, Metro would conduct a quantitative hydraulic analysis to evaluate the flood risk. The increased flood risk, if determined to be significant, could be mitigated with, but not limited to the following options: 1) raising the height of the existing channel banks; 2) constructing a flow bypass; or 3)providing an inline or offline flood storage facility. 4.12-xv. To compensate for potential loss of flood storage capacity or alteration of flood flow direction and velocity due to placement of LRT structures in Rio Hondo and San Gabriel spreading basins, and potential loss due to the possible reinforcement of existing columns within the Rio Hondo and San Gabriel Rivers, Metro would provide compensatory mitigation to replace lost storage capacity. Compensatory mitigation for flood storage impacts would, at a minimum, replace any lost flood capacity. In addition, the Washington Boulevard LRT Alternative would be designed so that floodwaters could freely flow under and through the structure in the affected areas. **Operation Mitigation Measures** The same mitigation measures (see Mitigation Measures 4.12-xii and 4.12-xiii) described above for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative.	
Energy		
There are no adverse/significant geotechnical/subsurface/seismic effects/impacts associated with either construction or operation of the Washington Boulevard LRT Alternative.	No mitigation measures are required.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Cultural Resources		
Built Environment **Construction** The Chinese Garden Restaurant, which would be removed as part of this alternative, and the Site of the Battle of Rio San Gabriel would be affected by construction activities.	**Construction Mitigation Measures** The Chinese Garden Restaurant is the only historic building of whose entire structure the Washington Boulevard LRT Alternative would require physical demolition. Relocation is one type of mitigation to avoid demolition of a historic building. The CRHR Special Considerations (14 CCR 4852.d.1.) indicate that a building may still be eligible for the CRHR after it has been relocated, as follows: The State Historical Resources Commission encourages the retention of historical resources on site and discourages the non-historic grouping of historic buildings into parks or districts. However, it is recognized that moving a historic building, structure, or object is sometimes necessary to prevent its destruction. Therefore, a moved building, structure, or object that is otherwise eligible may be listed in the California Register if it was moved to prevent its demolition at its former location and if the new location is compatible with the original character and use of the historical resource. A historical resource should retain its historic features and compatibility in orientation, setting, and general environment. The mitigation measures below would be used as needed to minimize adverse construction-related effects on historic properties and CEQA historical resources within the APE and address the requirements of the Special Considerations by requiring the new location to be compatible with the original character and use of the historical resource. Two options for relocation would be considered, and each requires the resource to retain its historic features and compatibility with respect to orientation, setting, and the general environment. 4.14.1-i. Relocation of the Chinese Garden Restaurant, Option A: Relocation would require safely moving the building to the rear parking lot of its current location. Relocation of the building would be the responsibility of Metro and would meet the following requirements: ▪ This site shall provide adequate on-street and off-street parking to maintain current levels of patronage; ▪ Existing landscaping shall be preserved after the relocation; ▪ The freestanding "Chinese Garden Restaurant" sign shall remain in front of the restaurant after the relocation; ▪ The building shall be protected before, during, and after the move; and ▪ There shall be adequate public notification of the move. 4.14.1-ii. Relocation of the Chinese Garden Restaurant, Option B: Relocation would require safely moving the building to a similar lot along Garfield Avenue. Relocation of the building would be the responsibility of Metro and meet the following requirements:	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Cultural Resources		
	▪ This site shall provide adequate on-street and off-street parking to maintain current levels of patronage; ▪ The building shall have similar street frontage to maintain access and visibility to patrons, with a best effort to maintain its current streetscape orientation; ▪ Existing landscaping shall be preserved after the relocation; ▪ The freestanding "Chinese Garden Restaurant" sign shall remain in front of the restaurant after the relocation; ▪ The building shall be protected before, during, and after the move; and ▪ There shall be adequate public notification of the move. For either option, relocation of the restaurant to a new location would maintain contributing aspects of its historic orientation, immediate setting, and the general environment. Any relocation efforts implemented for the Chinese Garden Restaurant would be conducted in accordance with the guidelines recommended by the National Park Service, which are outlined in the booklet Moving Historic Buildings by John Obed Curtis (1979). In addition, any maintenance, repair, rehabilitation, stabilization, or preservation work performed in conjunction with relocation of the Chinese Garden Restaurant would be undertaken in a manner consistent with the Secretary of the Interior's standards. If the recommended mitigation for relocation is successfully implemented, such that the project "would not cause a substantial adverse change in its significance," it would lessen the significant impact on the Chinese Garden Restaurant to a level that is less than significant, per the effect/impact criteria outlined in Section 15064.5 of the CEQA Guidelines. A third mitigation measure for the Chinese Garden Restaurant is recommended for implementation alongside Relocation Option A or Option B to reduce the potential impacts of the alternative and relocation of the restaurant to a less than significant level. If neither of the Relocation Options is implemented, the third mitigation measure below herein by itself would not lessen the impact of demolition of the historical resource to less than significant, and the impact would still be significant after mitigation.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Cultural Resources		
Operation No adverse effects/significant impacts to cultural resources would occur with operation of the Washington Boulevard LRT Alternative.	4.14.1-iii. Archival Documentation of the Chinese Garden Restaurant: Prior to demolition or removal of the Chinese Garden Restaurant, Metro would arrange a photographic documentation report to be prepared by a qualified architectural historian, historic architect, or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture pursuant to 36 CFR 61. This report would document the significance of the Chinese Garden Restaurant, its physical conditions, and setting along Garfield Avenue, both historic and current, through photographs and text. Photographs noting all elevations and details of the building's architectural features should be taken using 35 mm black-and-white film. The photographer should be familiar with the recordation of historical resources. Photographs should be prepared in a format consistent with the Historic American Buildings Survey (HABS) standard for field photography. Copies of the report would be submitted to the city of Montebello Planning and Development Department and the Montebello Public Library. The Site of the Battle of Rio San Gabriel 4.14.1-iv. Metro would arrange to have archaeological monitoring during construction at the site of the Battle of Rio San Gabriel, in accordance with the Cultural Resources Monitoring and Mitigation Plan (CRMMP). **Operation Mitigation Measures** No mitigation measures are required.	
Archaeological Resources **Construction** Construction of the Washington Boulevard LRT Alternative, including aerial or at-grade crossings of Rosemead Boulevard and the I-605/San Gabriel River, could have the potential to disturb or destroy a significant archaeological resource.	**Construction Mitigation Measures** The same mitigation measures (see Mitigation Measures 4.14.2-i through 4.14.2-vi) described above for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Cultural Resources		
Operation No adverse effects/significant impacts to archaeological resources would occur with operation of the Washington Boulevard LRT Alternative.	**Operation Mitigation Measures** No mitigation measures are required	
Paleontological Resources **Construction** There could be significant impacts to unknown paleontological resources during construction activities. **Operation** No significant impacts to paleontological resources would occur with operation of the Washington Boulevard LRT Alternative.	**Construction Mitigation Measures** The same mitigation measures (see Mitigation Measures 4.14.3-i through 4.14.3-v) described above for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative. **Operation Mitigation Measures** No mitigation measures are required.	Not Adverse/Less than Significant
Parklands and Other Community Facilities		
Construction Temporary tree removal and re-routing of bicycle paths would occur within some of the remaining parks and recreational facilities. However, all trees would be replaced. In addition, the temporary re-routing of bike paths would allow them to remain open during construction. As a result, no significant impacts to parklands and other community facilities would occur during construction activities.	No mitigation measures are required.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Parklands and Other Community Facilities		
Operation There are no adverse/significant parklands and other community facilities effects/impacts associated with operation of the Washington Boulevard LRT Alternative.		
Economic and Fiscal Impacts		
Construction Construction would have temporary impacts on commercial and industrial businesses, particularly those near or adjacent to construction sites.	**Construction Mitigation Measures** The same mitigation measures (see Mitigation Measures 4.4-viii through 4.4-xiv) described above for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative. In addition, mitigation measures 4.5-i through 4.5-iv and 4.5-vi through 4.5-ix from Section 4.5, Community and Neighborhood Impacts and mitigation measures 3.0-ii through 3.0-xiii from Chapter 3, Transportation Impacts would be implemented. (Refer to the specific section for the detailed mitigation measure.)	Not Adverse/Less than Significant
Operation There are no adverse/significant economic and fiscal effects/impacts associated with operation of the Washington Boulevard LRT.	**Operation Mitigation Measures** No mitigation measures are required.	
Safety and Security		
Construction Construction of the Washington Boulevard LRT has the potential to impact automobile, pedestrian and bicycle access safety; and emergency access routes and emergency responders. The visibility of construction aspects of the alternative may encourage theft and heightened visitation from criminals into the project area.	**Construction Mitigation Measures** The same mitigation measures described above under Safety and Security for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Safety and Security		
Operation The project has the potential to attract crime. Pedestrian safety could be compromised at stations, designated grade crossings, and near at-grade segments of the trackway. There is the potential for motor vehicle/light rail associated with the Washington Boulevard LRT Alternative. Aerial portions of the alternative require support columns, which are conducive to graffiti and would create shadows and would create hiding places along SR 60 that may add to crime problems in the area. Pedestrian safety, particularly near schools, is a concern where many students walk to and from the facility. At-grade segments along Washington Boulevard have the potential to disrupt emergency services response times, especially with the cluster of medical services and the Presbyterian Intercommunity Hospital near the termini of the alignment at Lambert Road.	**Operation Mitigation Measures** The same mitigation measures described above under Safety and Security for the SR 60 LRT Alternative would also apply to the Washington Boulevard LRT Alternative.	

Table ES-2. Summary of Impacts and Mitigation Measures for each of the Project Alternatives (Continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Washington Boulevard LRT Alternative		
Safety and Security		
Perceived high gang activity in the industrial and residential/commercial areas of Washington Boulevard would merit design considerations (i.e., emergency telephones, PA systems, and closed circuit monitoring systems) and law enforcement personnel to ensure a safe, secure, and comfortable transit system.		
Environmental Justice		
Construction During construction, there would be a moderate effect to on-street parking on along Garfield Avenue from Via Paseo to Via Acosta. These effects would affect residents of the surrounding neighborhoods. **Operation** In view of the considerable project benefits and local support for implementing the Washington Boulevard LRT Alternative, the adverse effects during operation of this alternative would not be disproportionate compared with the mobility, regional connectivity, equity, and economic gains this alternative could offer.	**Construction Mitigation Measures** Construction mitigation measures identified for the Washington Boulevard LRT Alternative under the environmental resources above would apply to affected low-income and minority populations. **Operation Mitigation Measures** Operation mitigation measures identified for the Washington Boulevard LRT Alternative under the environmental resources above would apply to affected low-income and minority populations.	Not Adverse/Less than Significant