Chapter 4. Alternatives

4.1 Introduction

This Chapter describes the alternative analysis process and evaluation for the Project Refinements under the Supplemental EIR No. 2. The following alternatives analysis involves two of the Project Refinements:

- Adding traction power supply substation (TPSS) units in various cities within Phase 2A, and
- Relocating the Duarte Station parking facility in the City of Duarte.

Alternatives for eliminating a sound barrier (Duarte Eastbound Group 1) in the City of Duarte and mitigating vibration for a single-family residence in the City of Azusa are not considered as discussed in Section 4.2.2.

4.2 Alternatives of the Proposed Project

4.2.1 History of the Alternative Analysis Process

The Authority had previously evaluated a number of alternatives for Project, some of which are described within the 2007 Final EIR and the *Gold Line Phase II Extension Pasadena to Claremont Alternatives Analysis*, dated January 9, 2003.

The Authority's process for alternatives analysis offered a robust evaluation covering a full range of alternatives, including an initial list of 25 alternatives, a screened list of seven alternatives, and the selection of a locally preferred alternative. The analysis also assessed a range of alignment and technology options that could serve the corridor's transportation needs that ranged from the No-Action Alternative to transportation system management alternatives to various modal alternatives (e.g., bus rapid transit, light rail transit [LRT], commuter rail, high-occupancy vehicle lanes, and guideway-based alternatives).

Based on the 2007 Final EIR, it was determined that the existing Interstate 210 freeway right-of-way and the existing rail alignment right-of-way were the most promising areas for development of transit service. From this, the 2007 Final EIR then turned its discussion to three basic alternatives: 1) the No-Action Alternative, 2) the Full Build LRT (Pasadena to Montclair) Alternative, and 3) the Build LRT to Azusa Alternative.

The Build LRT to Azusa Alternative was ultimately selected as the locally preferred alternative, connecting the existing Sierra Madre Villa Station to the City of Azusa (approximately 11.5 miles) and utilizing the same LRT technology and system components currently in use on Phase 1. As described in Chapter 2, the Build LRT to Azusa Alternative would include six LRT stations (one each in the cities of Arcadia, Monrovia, Duarte, and Irwindale, and two in the City of Azusa) and would provide parking facilities at each of the proposed stations. The Build LRT to Azusa Alternative would also include two LRT tracks throughout the corridor, along with one freight track

between the Miller-Coors Brewing Company Facility in the City of Irwindale and the eastern boundary of the City of Azusa.

Following the work of the 2007 Final EIR, the *Gold Line Phase II Pasadena to Montclair-Foothill Extension Final Supplemental Environmental Impact Report* (the "2011 Supplemental EIR No. 1") analyzed the environmental impacts associated with constructing a Maintenance and Operation (M&O) Facility and other minor Project refinements within Phase 2A. An M&O Facility in the City of Irwindale (Alternative 2) was considered against an M&O Facility in the City of Monrovia. Upon analysis, it was determined that the Environmental Superior Alternative was constructing the M&O Facility in Monrovia as well as constructing five other Project refinements as part of Phase 2A.

Since the certification of the 2011 Supplemental EIR No. 1, the Authority has determined the need for the additional Project Refinements analyzed in this Supplemental EIR No. 2.

4.2.2 Project Refinements Not Considered in Detail

This Supplemental EIR No. 2 discusses both the Project Refinements that require specific alternatives analysis and the Project Refinements that are defined as being within the scope of the Project previously considered in the 2007 Final EIR and the 2011 Supplemental EIR No. 1. A specific alternatives analysis was not conducted for the elimination of a sound barrier (Duarte Eastbound Group 1) in the City of Duarte and the mitigation of vibration for a single-family residence in the City of Azusa because each of these Project Refinements are within the scope of the Project previously considered. Each of these Project Refinements was needed based on expanded analysis of the Project's design and further impact considerations of the previously-approved Phase 2A. Additionally, each of the Project Refinements not considered in detail herein was analyzed in detail in Chapter 3 of this Supplemental EIR. Because there is no residual impact upon implementation of one of the three identified mitigation measures for the vibration at the single family residence in the City of Azusa, there is no need for further alternatives analysis.

4.2.3 Project Refinement Alternatives Considered in Detail

A specific alternatives analysis has been done for the addition of TPSS units in various cities within Phase 2A and the relocation of the Duarte Station parking facility in the City of Duarte. Chapter 3 documents that environmental impact analysis for all of the applicable build alternatives, and the Environmentally Superior Alternative is identified below. Independent of which analyzed refinement alternative is selected, the Project Refinements previously mentioned in Section 4.2.2 would remain approved, pending certification of a Final Supplemental EIR No.2 by the Authority.

4.2.3.1 No-Action Alternative

The No-Action Alternative is a no-project alternative that is required by Section 15126(e) of the CEQA Guidelines and assumes that none of the applicable Project Refinements analyzed herein would be implemented, although it does not mean that development within the Project area will be prohibited. The No-Action Alternative allows decision makers to compare the impacts of approving the Project Refinements with the impacts of not approving the Project Refinements as analyzed. With respect to the Project Refinements, analysis of the No-Action Alternative includes existing environmental impacts that would result from planned and programmed projects in the region, including but not limited to Phase 2A.

The No-Action Alternative represents the baseline conditions, consisting of existing and committed elements of the region's transportation plan in addition to all highway and transit projects and operations that the region and the Authority expect to be in place by the year 2035. The No-Action Alternative assumes that Phase 2A would be built as described in the 2007 Final EIR, the 2007 Final EIR Addendum No. 1 and Addendum No. 2, and the 2011 Supplemental EIR No. 1. However, neither of the two Project Refinements analyzed in this Chapter would be built.

Relationship to Project Objectives

Upon evaluation, the No-Action Alternative would not meet Project objectives as identified in Chapter 2, and thus is not considered to be a feasible alternative.

The No-Action Alternative would not provide the additional traction power needed to support the Metro Gold Line operations and adhere to Metro Design Criteria. Metro's June 10, 2011, "Traction Power Load-Flow Study Report" report concluded that even with all the substations previously proposed in service, the system cannot maintain traction voltage in compliance with Metro Design Criteria (Appendix E). Therefore, without the two additional TPSS units, adequate power to support the anticipated "worst-case" service pattern could not be provided.[1]

Furthermore, the No-Action Alternative would not reduce walking distances and safety concerns for pedestrians at the Duarte Station. As currently proposed and designed, the walking distance from the center of the parking lot to the end of the Duarte Station would be over 2,000 feet. The City of Duarte and the Authority concluded that this distance would adversely affect pedestrian safety and accessibility from the parking facility to the Station, and relocation of the parking facility needed to be considered.

Comparative Analysis of Impacts

While the No-Action Alternative would avoid all impacts associated with the Project Refinements, it could also undermine the feasibility of Phase 2A because some of the Project Refinements, such as adding the needed TPSS units and relocating the Duarte Station Parking Lot are proposed in response to design constraints of the as-approved Project.

4.2.3.2 Adding Traction Power Substation (TPSS) Units in Various Cities within Phase 2A

As defined in Chapter 2, the Project requires a series of TPSS units along the LRT alignment to provide electrical power to the light rail vehicles. Chapter 3 analyzes the three alternative site locations for the Michillinda TPSS (TPSS No. 0) unit. Alternatives for the Soldano TPSS (TPSS No. 8A) unit are not evaluated because this unit was previously analyzed and would now be required in addition to the Citrus TPSS (TPSS No. 8B) unit, as described in the 2007 Final EIR Addendum No. 2.

[1] The "worst-case" service pattern is defined as 3-car trains spaced at 5-minute headways with no degradation.

Comparative Analysis of Impacts

There would no significant impacts associated with noise and vibration, cultural resources, geological and hazardous materials, or traffic and transportation for any of the three Michillinda TPSS alternatives. Furthermore, no additions or changes to the 2007 Final EIR or the 2011 Supplemental EIR No. 1 mitigation recommendations are necessary as a result of any of the Michillinda TPSS alternatives. Not implementing one of these three alternatives could also undermine the feasibility of Phase 2A because the Project Refinement is being proposed in response to traction voltage constraints of the as-approved Project.

4.2.3.3 Relocating the Duarte Station Parking Facility

As defined in Chapter 2, the relocation of the parking facility for the Duarte Station is needed to support pedestrian accessibility needs and safety, to lessen circulation impacts on surrounding businesses, and to reduce impacts to residential uses. Chapter 3 analyzes the two alternative site locations for the Duarte Station parking facility.

Comparative Analysis of Impacts

There would no significant impacts associated with noise and vibration, cultural resources, geological and hazardous materials, or traffic and transportation for either Duarte Station parking facility alternatives. Either alternative could be implemented with similar levels of impact. Furthermore, no additions or changes to the 2007 Final EIR or the 2011 Supplemental EIR No. 1 mitigation measures are necessary as a result of either alternative. Not implementing one of the two alternatives could also impact pedestrian access, safety, local business circulation, and residential uses of the as-approved Project.

4.3 Construction Scenarios

4.3.1 No-Action Alternative

The No-Action Alternative does not require any additional construction beyond what was evaluated in the 2007 Final EIR and the 2011 Final Supplemental EIR No 1.

4.3.2 Build Alternative

Construction scenarios for each of the Project Refinements and their applicable alternatives are described in detail in Chapter 2.

4.4 Environmentally Superior Alternative

Section 15126.6 (e)(2) of the CEQA Guidelines requires that an Environmentally Superior Alternative be identified among the selected alternatives (excluding the No-Action Alternative). The Environmentally Superior Alternative as discussed in this Supplemental EIR No. 2 is the implementation of the Project Refinements as described in Chapter 2, which includes construction of the five Project Refinements.

4.4.1.1 Michillinda TPSS (TPSS No. 0) Alternative Limitations

As noted, impacts to noise and vibration, cultural resources, geological and hazardous materials, as well as traffic and transportation would be the same for all three Michillinda TPSS alternatives.

Given that all three sites meet Project objectives, comparison of the three alternatives is based on feasibility of implementation associated with construction and operation of each of the alternatives. Alternative A would require additional discussions with the current home owner to obtain the property for construction of a TPSS unit. Similar to Alternative A, Alternative B would require additional discussion with the current commercial property owner to obtain the property for construction of a TPSS unit. Alternative C could be problematic because Caltrans could not expand the surrounding freeway on- or off-ramps should there be a future need, and there are a number of access issues associated with the on- and off-ramps surrounding the site.

Therefore, with mitigation, potential impacts of each of the three alternatives would be less than significant and can be considered an Environmentally Superior Alternative. The Authority would determine the preferred alternative based on feasibility prior to Project initiation.

4.4.1.2 Duarte Station Parking Facility Alternative Limitations

As noted, impacts to noise and vibration, cultural resources, geological and hazardous materials, as well as traffic and transportation would be the same for both Duarte Station parking facility alternatives.

Given that both sites meet Project objectives, comparison of the two alternatives is based on feasibility of implementation and business parking impact considerations associated with construction and operation of Alternative A (east-west orientation) and Alternative B (north-south orientation). As noted in Chapter 2, Alternative B would have more impacts on local businesses by taking parking from a number of nearby businesses, instead of Alternative A's impact on just GE Aviation parking. Furthermore, using the site originally considered for the Duarte Station parking facility in the 2007 Final EIR would not compensate for the parking needs of the multiple businesses as it would for GE Aviation. Therefore, Alternative A is the more feasible alternative and the Environmentally Superior Alternative.