2. Design Refinements

2.1 Introduction

As described in Chapter 1, three Build Alternatives, each of which had design options, were analyzed in the Recirculated Draft EIR. The Metro Board of Directors adopted a motion for continuing the CEQA process for Alternative 3 (selected as the LPA) and Alternative 1 (the full alignment) with the design options and the Montebello MSF. Following the action of the Metro Board and receipt and review of public comments on the Recirculated Draft EIR, the conceptual engineering of the Project continued to progress. This resulted in the consideration of refinements to the overall project design and performance that are applicable to Alternative 1 and Alternative 3. These refinements are identified and analyzed in this Final EIR as Design Refinements, including changes that are incorporated into Alternative 1 and Alternative 3 as new project components or as optional changes that will be further considered as the engineering advances. The Design Refinements which are evaluated in this chapter are not considerably different from Alternative 1 and Alternative 3 and the design options analyzed in the Recirculated Draft EIR.

The Design Refinements, described below, consist of (1) an optional Guideway Refinement for the transition from the aerial configuration to the at-grade configuration; and (2) Crossover Refinements consisting of three crossover locations that were not identified in the Recirculated Draft EIR and one optional crossover. Apart from one new crossover location that is applicable to Alternative 1 only, the Guideway Refinement and Crossover Refinements are applicable to both Alternative 1 and Alternative 3. The Crossover Refinements are applicable to Alternatives 1 and 3 with Montebello At-Grade Option or the Guideway Design Refinement.

2.2 Description of the Design Refinements

2.2.1 Guideway Refinement

Alternatives 1 and 3 analyzed in the Recirculated Draft EIR include underground, aerial, and at-grade guideway configurations. The Guideway Refinement entails a refinement in the location of the transition from the aerial to at-grade configurations that was studied in the Recirculated Draft EIR for Alternatives 1 and 3. The Recirculated Draft EIR evaluated two scenarios for the aerial and at-grade configurations: the base Alternative and the Montebello At-Grade Option. The base Alternatives 1 and 3 included approximately 1.5 miles of aerial alignment extending from east of Saybrook Avenue to east of Carob Way (Alternative 1) or Greenwood station (Alternative 3), one aerial station (Greenwood station), and aerial lead tracks to the Montebello MSF. The Montebello At-Grade Option for Alternatives 1 and 3 included 0.5 miles of aerial alignment from east of Saybrook Avenue to Yates Avenue, where the alignment would transition to at-grade and remain at grade to the terminus. Under the Montebello At-Grade Option for both Alternative 1 and Alternative 3, there would be no aerial stations and the lead tracks to the Montebello MSF would be at-grade.

The Guideway Refinement presents a third configuration option that would consist of 0.9 miles of aerial alignment from east of Saybrook Avenue to east of Vail Avenue. The aerial tracks would transition from aerial to an at-grade configuration between Vail Avenue and Maple Avenue and then remain at-grade in the center of Washington Boulevard. A mechanically stabilized earth (MSE) wall

would allow the transition from the aerial to the at-grade configuration. There would be no aerial stations and, as with the base Alternatives 1 and 3, the lead tracks to the MSF would be in an aerial configuration from Washington Boulevard. The MSF lead tracks would transition to at-grade as the track approaches the MSF. **Figure 2.1** presents a plan view that shows the lead tracks and Greenwood station in relation to Vail Avenue and Maple Avenue. The figure also shows a profile view of the two guideway configurations evaluated in the Recirculated Draft EIR and the Guideway Refinement evaluated in this chapter of the Final EIR.

The transition from aerial to at-grade with the Guideway Refinement would occur within the Washington Boulevard median, adjacent to light industrial uses near Vail Avenue that transition to commercial uses at the Maple Avenue intersection. Nearby businesses include public storage, wholesale pallet sales, transport services, auto repair, and fast food. There are no sensitive uses in the vicinity.

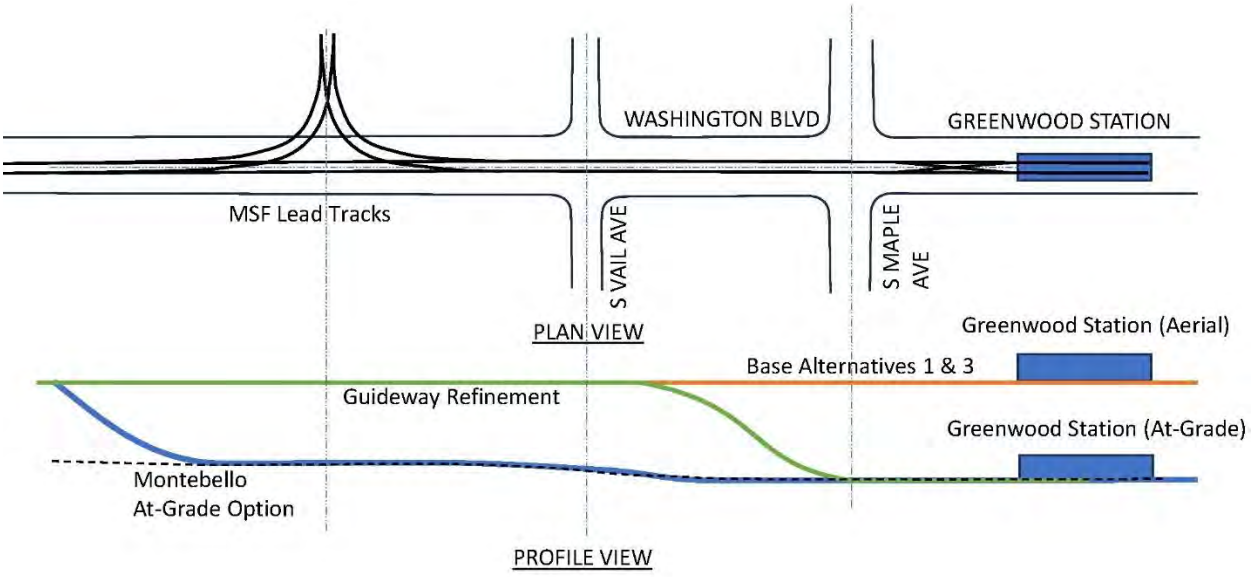

Figure 2.1. Guideway Refinement Exhibit

2.2.2 Crossover Refinements

Crossovers are mechanical track installations along a double-track alignment that allow trains traveling in either direction on either track to move to the other track and continue traveling in the same direction without stopping. Trains may also pass through a crossover without switching tracks. Crossovers allow a portion of one track to be closed without completely suspending rail service. Crossovers can be used to allow trains to bypass a stalled train or turn back in the opposite direction. Wider rights-of-way may be required in the vicinity of at-grade crossovers thus potentially increasing the amount of roadway space needed for LRT facilities.

The operation and construction of crossovers were considered in the evaluation of the guideway alignment in the Recirculated Draft EIR. However, the Crossover Refinements consist of four new or adjusted crossover locations that were not previously evaluated. Each of the four new or adjusted locations are described below. Three of the crossover locations are new components of the Project and one is an option that would be considered as engineering advances. Three locations, including the optional location, are applicable to Alternatives 1 and 3 and one, near Lambert station in Whittier, is only applicable to Alternative 1.

The Build Alternatives evaluated in the Recirculated Draft EIR include crossovers located along the underground and at-grade portions of the Project alignment. Consequently, the impacts from the operation and construction of crossovers were already broadly identified and captured in the Recirculated Draft EIR. Further, two of the four Crossover Refinements would be located within the same guideway that the Recirculated Draft EIR fully evaluated. Therefore, the following assessment of the Crossover Refinements is focused on any potential differences in environmental impacts that may exist specifically for the new or revised crossover locations, as well as the additional operation and construction for the two crossover locations that are outside of the guideway that was evaluated.

2.2.2.1 Maravilla Crossover Option

The Maravilla crossover is an optional Design Refinement that would be a new at-grade crossover in the existing Metro E Line tracks on 3rd Street between Arizona Avenue and Kern Avenue, west of East L.A. Civic Center Station, as shown on **Figure 2.2**. This crossover is proposed to improve operational needs from Metro. Construction of the crossover would necessitate a minor shift of the existing track and roadway resurfacing in the vicinity of the changes to the track. All work occur would within the existing right-of-way (ROW) and no property acquisition or construction easements would be required. Construction would require temporary lane closures and track closures. Existing Metro E line service would temporarily terminate at Maravilla Station during construction. Metro would provide connecting bus service between Maravilla Station to East L.A. Civic Center Station and the existing Atlantic Station during this period which is expected to last 6 to 12 months. Following construction, the roadway surface and track would be restored to existing conditions.

The Maravilla crossover is located within the detailed study area (DSA) studied in the Recirculated Draft EIR. Surrounding uses include a multi-family residential building, several commercial uses, a church, vacant lot, and utilities. There are residences located to the west on 3rd Street and east on Kern Avenue. Griffith Stream Magnet Middle School and the East Los Angeles Civic Center are located east of the proposed crossover, to the east of Mednik Avenue.

2.2.2.2 Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover would be a new underground crossover just north of the proposed Atlantic/Whittier station south of Hubbard Street as shown on **Figure 2.3**. This station would require a larger underground station footprint than analyzed in the Recirculated Draft EIR to accommodate this underground. The total station box size would increase from 46,000 square feet to 82,000 square feet. One additional partial take of a commercial property would be required to accommodate an emergency egress at the eastern side of the street on the northern end of the crossover. The land uses in this area are commercial. There are no sensitive uses in the immediate vicinity.

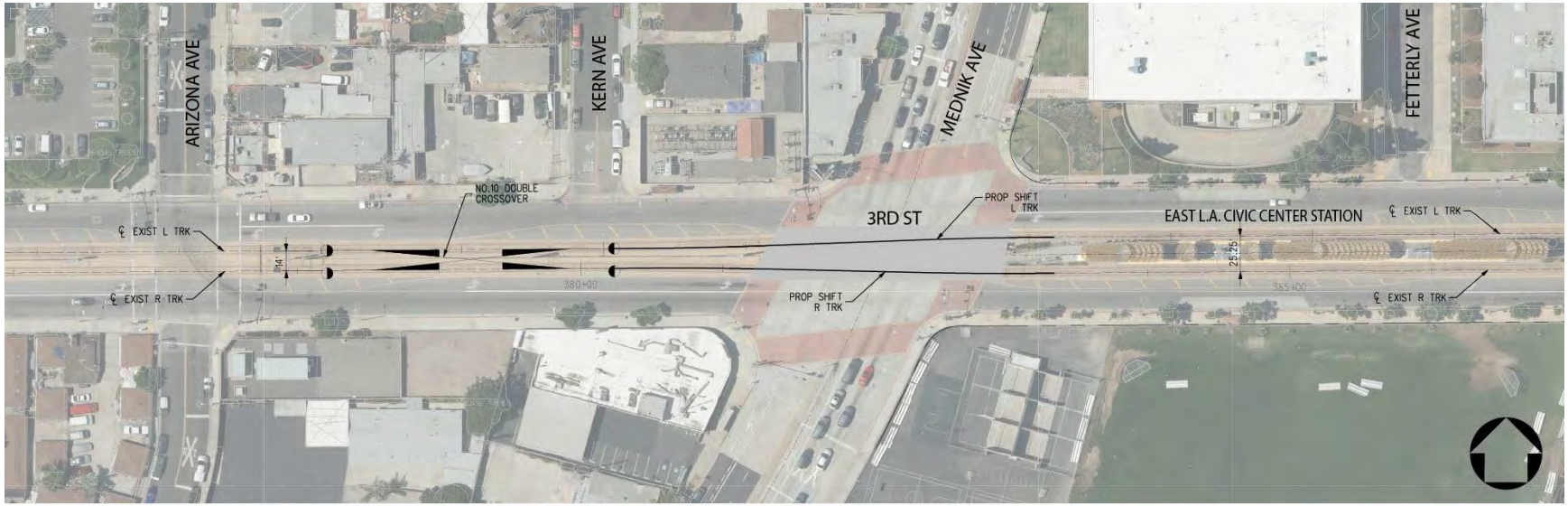

Figure 2.2. Maravilla Crossover Exhibit

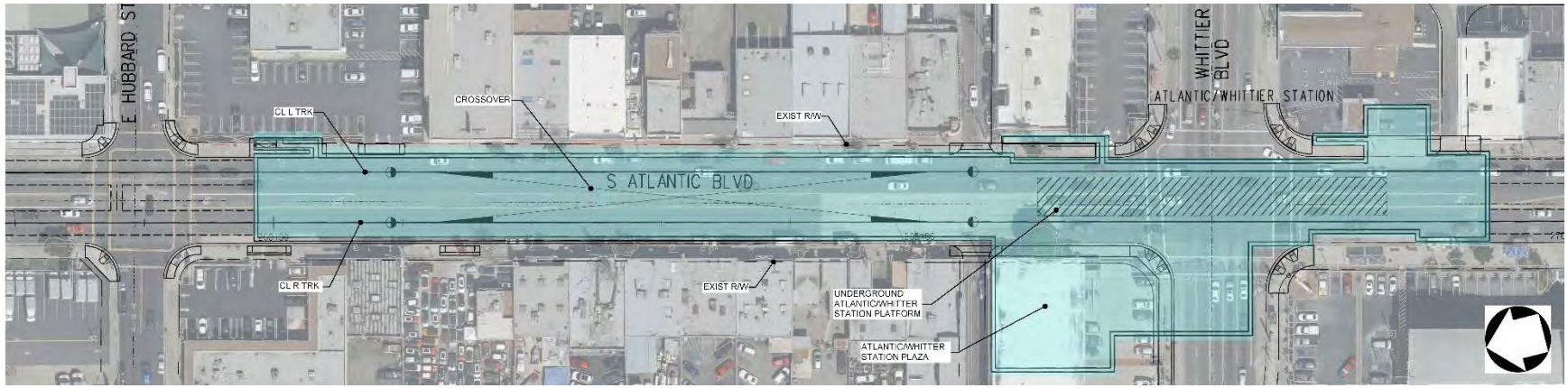

Figure 2.3. Atlantic/Whittier Station Crossover Exhibit

2.2.2.3 Greenwood Crossovers

The Greenwood crossovers would include two crossovers: a new at-grade crossover just west of Greenwood station and a relocated at-grade crossover east of Greenwood station and west of the crossover location analyzed in the Recirculated Draft EIR. Under Alternative 3 with the Greenwood crossovers refinement, the tail tracks would cross Montebello Boulevard and extend just to the east of Carob Way. As shown on **Figure 2.4**, the new crossover would be located immediately west of the Greenwood Station after Maple Ave and the relocated crossover would be located immediately east of Greenwood Avenue. The relocated crossover would result in additional partial property takes, including sliver takes of the frontage of two properties east of Greenwood Avenue on the northern edge of the street consisting of the South Montebello Irrigation District building and a residence, both of which are considered historic resources for purposes of CEQA. Other uses in the immediate vicinity are light industrial and commercial.

2.2.2.4 Lambert Crossover

The Lambert Crossover would be a new at-grade crossover and tail tracks located south of the proposed Lambert station. This crossover is analyzed as a component of Alternative 1 and is not applicable to Alternative 3. As shown on **Figure 2.5**, the Lambert crossover would extend the tail tracks approximately 350 feet from the Alternative 1 terminus analyzed in the Recirculated Draft EIR to just northwest of Santa Fe Springs Boulevard. The station and tail tracks would be angled slightly eastward towards Lambert Road. This is to avoid residential property acquisitions while also maintaining conformation with the Metro Rail Design Criteria (MRDC). There would be several additional property acquisitions of commercial businesses. Surrounding uses consist of single family residences adjacent to the tracks, commercial and residential uses across Lambert Road, and residential and auto repair uses across Santa Fe Springs Road.

2.3 Relationship of the Design Refinements to the Recirculated Draft EIR

The environmental impacts of the Build Alternatives were comprehensively identified and analyzed in the Recirculated Draft EIR. The environmental impacts specific to the Design Refinements as part of the Build Alternatives selected by the Metro Board to be analyzed in this Final EIR (Alternative 1 and Alternatives 3 with the design options and the Montebello MSF) are presented below in **Section 2.4**. This assessment identifies if any new information, new significant environmental impacts, or a substantial increase in the severity of previously identified impact under project or cumulative conditions would occur with construction or operation of the Design Refinements as part of Alternative 1 and the LPA with the design options and the Montebello MSF.

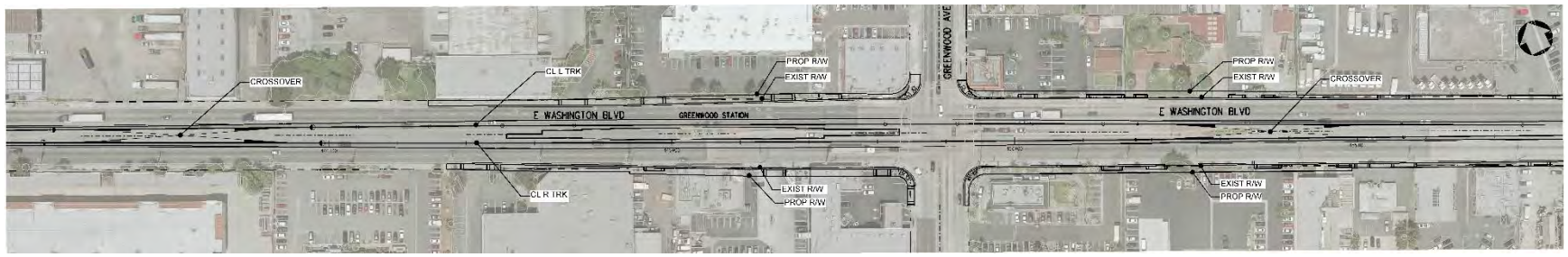

Figure 2.4. Greenwood Crossovers Exhibit

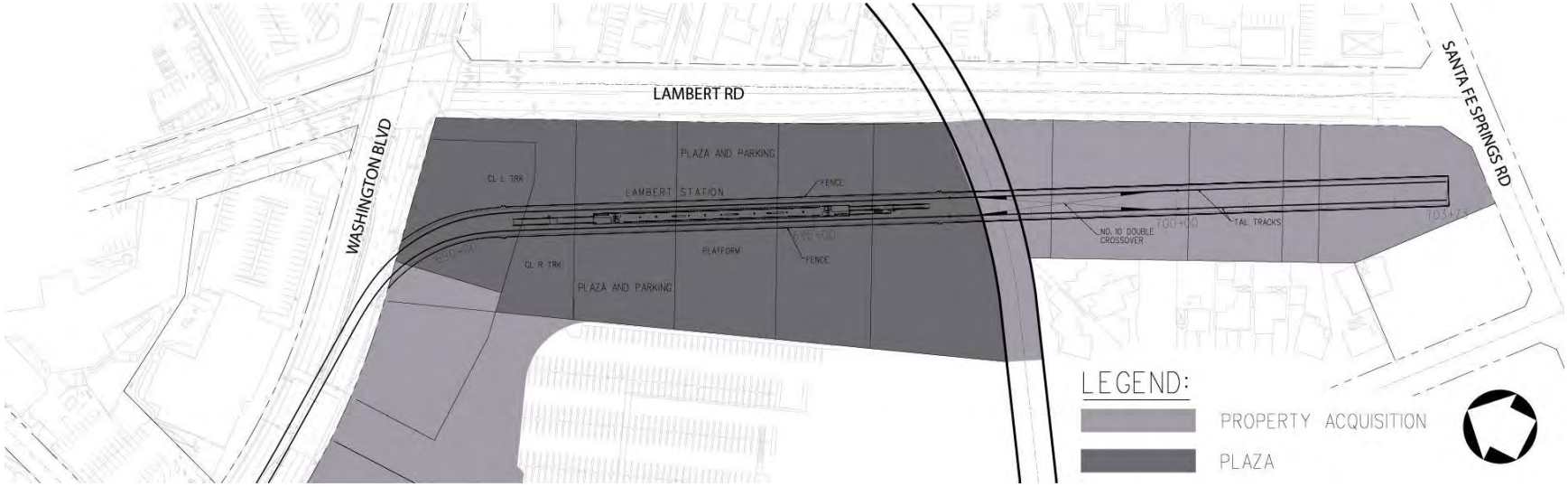

Figure 2.5. Lambert Crossover Exhibit

As described in **Section 2.2.1** and **Section 2.2.2**, the Design Refinements represent small changes in the design of the Project elements that were already studied in the Recirculated Draft EIR. Consequently, the impacts from the Guideway Refinement were already broadly assessed and identified. The Design Refinements would not result in a new significant environmental impact beyond those described in the Recirculated Draft EIR or result in a substantial increase in the severity of an environmental impact described in the Recirculated Draft EIR. Further, they do not represent an alternative or mitigation measure that is substantially different from others analyzed in the Recirculated Draft EIR, as amended by corrections and additions as identified in Chapter 3 of the Final EIR. These conclusions are supported by the analysis below in **Section 2.4**. As most of the impact analyses associated with the Design Refinements would be the same as the Build Alternatives selected by the Metro Board to be analyzed in this Final EIR, this analysis should be read in conjunction with the impact analysis contained in Chapter 3 of the Recirculated Draft EIR, and the associated modifications thereto, contained in Chapter 3 of the Final EIR for Alternatives 1 and Alternatives 3 with the Atlantic/Pomona Station Design Option and the Montebello MSF. The Guideway Refinement should be read in conjunction with the analysis of the base Alternatives 1 and 3 and Alternatives 1 and with the Montebello At-Grade Option.

Unless otherwise identified, the analysis of the Guideway Refinement in **Section 2.4** applies to both Alternative 1 and Alternative 3 with the Atlantic/Pomona Station Design Option and the Montebello MSF; the analysis of the Crossover Refinements applies to the Alternative 1 and Alternative 3 with the Atlantic/Pomona Station Design Option, the Montebello MSF, and the Montebello At-Grade Option or the Guideway Refinement option. The Lambert crossover is not applicable to Alternative 3.

2.4 Environmental Impact of the Design Refinements

This section presents the environmental impacts of Alternatives 1 and 3 with the Design Refinements as derived from the analysis presented in the Recirculated Draft EIR and amended by corrections and additions identified in Chapter 3 of this Final EIR. The evaluation is based on the same methodology and thresholds of significance for the environmental topics addressed in Sections 3.1 through Section 3.17 of the Recirculated Draft EIR. Applicable project measures and mitigation measures described in detail in Sections 3.1 through Section 3.17 of the Recirculated Draft EIR would continue to apply to Alternative 1 and Alternative 3 with any or all of the Design Refinements incorporated.

While the Guideway Refinement introduces a new scenario for where the guideway would transition from aerial to at-grade, it generally represents a hybrid option of the base Alternatives 1 and 3 configuration and the Montebello At-Grade Option for the guideway segment connecting to the Montebello MSF lead tracks (aerial and at-grade respectively). Consequently, the impacts from the Guideway Refinement were already broadly identified and assessed in the Recirculated Draft EIR evaluation of the base Alternatives 1 and 3 and the Montebello-At Grade Design Option. The Recirculated Draft EIR analysis of the base Alternatives 1 and 3 identifies all potential impacts associated with an aerial guideway configuration connecting to the MSF lead tracks, and the analysis of the Montebello At-Grade Option identifies all potential impacts associated with an at-grade guideway configuration at the same location. Therefore, this summary assessment of the Guideway Refinement is focused on any differences in environmental impacts that may exist where the transition from aerial to at-grade guideway occurs.

The operation and construction of crossovers were considered in the evaluation of the guideway alignment presented in the Recirculated Draft EIR. Consequently, the impacts from the operation and construction of crossovers were already broadly identified and captured in the Recirculated Draft EIR. Further, two of the four Crossover Refinements would be located within the same guideway that the Recirculated Draft EIR fully evaluated and would not result in material changes in the overall operation or construction of Alternatives 1 and 3. Therefore, for the two locations along the guideway analyzed in the Recirculated Draft EIR, the summary assessment of the Crossover Refinements is focused on any potential differences in environmental impacts that may exist specifically due to the crossover locations. The other two crossover locations, including the optional crossover location, are outside of the guideway that was evaluated in the Recirculated Draft EIR and the evaluation of those crossover locations considers the specific location as well as any impacts relative to operation and construction.

The summary assessment presented below identifies the thresholds evaluated in the Recirculated Draft EIR and presents the analysis of impacts for the Design Refinements for each environmental topic addressed in the Recirculated Draft EIR. Impacts were compared to the thresholds of significance and methodology identified in Sections 3.1 through Section 3.17 of the Recirculated Draft EIR to determine whether they would be, under CEQA, significant or less than significant. For purposes of determining significance, potential impacts were compared to the environmental baseline conditions and to the impact conclusions for the Project to determine if incorporating the Design Refinements as components of Alternatives 1 and 3 would result in a new significant environmental impact or a substantial increase in severity of an environmental impact beyond those identified in the Recirculated Draft EIR. A summary conclusion for each environmental topic is presented following the analysis of each threshold of significance.

2.4.1 Aesthetics

The Recirculated Draft EIR assessed potential impacts on aesthetics in Section 3.1 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to aesthetics if it would:

- Impact AES-1: Have a substantial adverse effect on a scenic vista.
- Impact AES-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- Impact AES-3: In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.
- Impact AES- 4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

2.4.1.1 Impact AES-1 (Scenic Vistas)

2.4.1.1.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 and would not result in any differences in the project footprint or operations. As evaluated in the

Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would result in a substantial adverse effect on a scenic vista. With the Guideway Refinement, the aerial to at-grade guideway transition segment would be located between Vail Avenue and Maple Avenue, which is developed with warehouse buildings, parking lots, and outdoor storage that transitions to commercial uses at Maple Avenue. Views are limited by flat topography and existing development. The mechanically stabilized earth wall would be located along the median of Washington Boulevard and would not encroach on any natural or open spaces that contribute to the scenic vista. The transition of the light rail tracks from aerial to at-grade is designed to be gradual. Construction activities with the Guideway Refinement and their associated impacts would be practically identical to those for Alternatives 1 and 3. The Recirculated Draft EIR evaluation of impacts on a scenic vista would not change. The impact would remain less than significant for both operation and construction.

2.4.1.1.2 Crossover Refinements

Maravilla Crossover

The Maravilla crossover would be located within the existing Metro E Line guideway and would not require any property acquisition. The Maravilla crossover would be integrated into the existing Metro E Line infrastructure, and would not introduce new elements into the already developed streetscape that could affect scenic views. This segment of 3rd Street is small scale, mixed residential and commercial that provides minimal distant views of the San Gabriel Mountains to the north and the Puente Hills to the east. Views of the downtown Los Angeles skyline are blocked by a sloping topography and elevated freeway interchange to the west. The Maravilla crossover, being a relatively small at-grade structure, would not change existing views of the surrounding mountains and hills, which are already obscured by the built-out urban landscape. Further, the frequency of LRT vehicles using the track would not change. The Recirculated Draft EIR evaluation of impacts on a scenic vista would not change. The impact would remain less than significant for both operation and construction.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover would be located along an underground guideway segment. Its subterranean location would inherently minimize visual impacts. The Atlantic/Whittier Station crossover and larger station footprint, being out of sight, would preserve the existing landscape and maintain the aesthetic integrity of the area. Furthermore, the surface-level infrastructure to accommodate the emergency egress component would be designed to blend with the surrounding urban environment and would not block any scenic views. Therefore, the Atlantic/Whittier Station crossover would not have a substantial adverse effect on a scenic vista. The Recirculated Draft EIR evaluation of impacts on a scenic vista would not change. The impact would remain less than significant for both operation and construction.

Greenwood Crossovers

The Greenwood crossovers would marginally increase the light rail guideway footprint along Washington Boulevard compared to Alternatives 1 and 3 analyzed in the Recirculated Draft EIR. The Greenwood crossovers would be at-grade and would blend with the infrastructure of the light rail line. Given the location within the median of an existing roadway, the Greenwood crossovers would not be a visual intrusion and would not obstruct any scenic views. Therefore, the Greenwood crossovers would be integrated into the landscape of Washington Boulevard without causing substantial adverse effects on the scenic vista. The Recirculated Draft EIR evaluation of impacts on a scenic vista would not change. The impact would remain less than significant for both operation and construction.

Lambert Crossover

The Lambert crossover would require additional full acquisitions of commercial properties. The proposed location is in a primarily small scale commercial and industrial area at the rear of residential developments, which inherently has less visual sensitivity compared to a natural or historic setting. Furthermore, the crossover and tail tracks would be at-grade and because the built-out suburban landscape already prevents clear views of Rose Hills to the northeast from Lambert Road, the Lambert crossover would not obstruct any scenic views. Therefore, the Lambert crossover would not have a substantial adverse effect on a scenic vista. The Recirculated Draft EIR evaluation of impacts on a scenic vista would not change. The impact would remain less than significant for both operation and construction.

2.4.1.2 Impact AES-2 (Scenic Highways)

2.4.1.2.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would be located near a state- or local-designated scenic highway, or eligible state scenic highways. Therefore, the Guideway Refinement would not damage or detract from any scenic resources along scenic highways. The Guideway Refinement would not change the Recirculated Draft EIR evaluation of impacts relative to scenic highways; there would continue to be no impact under operation and construction.

2.4.1.2.2 Crossover Refinements

None of the Crossover Refinements would be located near a state- or local-designated scenic highway, or eligible state scenic highways. Therefore, operation and construction of the Maravilla, Atlantic/Whittier Station, Greenwood, and Lambert crossovers would not damage any scenic resources (e.g., trees, rock outcroppings, or historic buildings) within the viewshed of a state scenic highway. The Recirculated Draft EIR evaluation of impacts on a state scenic highway would not change. There would be no impact.

2.4.1.3 Impact AES-3 (Visual Character)

The Project, including Guideway Refinement and all of the Crossover Refinement locations, is in an urbanized area, as defined by CEQA Guidelines Section 15387; therefore, in accordance with Appendix G of the CEQA Guidelines, a significant impact would occur if the Project conflicts with applicable zoning and other regulations governing scenic quality. The zoning ordinances of each affected jurisdiction do not directly regulate the design of transportation infrastructure elements including LRT. Additionally, the affected jurisdictions do not have policies or regulations that govern visual quality during construction activities for transportation-related projects. The Guideway Refinement and Crossover Refinements would be designed in conformance with all Metro policies related to visual resources. The Recirculated Draft EIR evaluation of Project impacts relative to zoning and other regulations governing scenic quality would not change; the impact determination would remain less than significant for both operation and construction.

As presented in the Recirculated Draft EIR, the potential for the Guideway Refinement and Crossover Refinements to affect visual character and quality is presented hereafter for informational purposes.

2.4.1.3.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 and would not result in any differences in the project footprint or operations. With the Guideway Refinement, the aerial to at-grade guideway transition segment would be located between Vail Avenue and Maple Avenue which is a built-out area and developed primarily with warehouse buildings, parking lots and outdoor storage, and commercial uses at Maple Avenue. The transition of the light rail tracks from aerial to at-grade level would be gradual and blend with the surrounding visual environment along public road ROW. This transition segment would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. The Guideway Refinement would respect the visual character of the surrounding environment while providing an efficient transit solution. Construction activities with the Guideway Refinement would be practically identical to those described Recirculated Draft EIR. Operation and construction of the Guideway Refinement would alter, but not substantially degrade, the visual character and quality of its surroundings.

2.4.1.3.2 Crossover Refinements

Maravilla Crossover

The Maravilla crossover would be located within the existing Metro E Line guideway footprint west of the East L.A. Civic Center Station. This segment of 3rd Street is small scale, mixed residential and commercial. The design of the Maravilla crossover would be integrated with the existing light rail guideway infrastructure, maintaining the visual continuity of the area. Furthermore, the Maravilla crossover would not introduce any new elements that could potentially disrupt the small neighborhood character of the surroundings. Construction activities and their associated impacts would be practically identical to those described in the Recirculated Draft EIR. Therefore, the Maravilla crossover would not conflict with local regulations or substantially degrade the existing visual character of the area. Operation and construction of the Maravilla crossover would alter, but not substantially degrade, the visual character and quality of its surroundings.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover would be located along an underground guideway segment. The crossover would not be visible to the public at surface level, as it would be underground, and would therefore preserve the existing visual character and quality of public views. Furthermore, the emergency egress component would not interfere with any surface-level features or activities, thus maintaining the aesthetic integrity of the area. Construction activities and their associated impacts would be practically identical to those described in the Recirculated Draft EIR. Therefore, the Atlantic/Whittier Station crossover would not conflict with local zoning ordinances pertaining to scenic quality or degrade the visual character of the area. Operation and construction of the Atlantic/Whittier crossover would alter, but not substantially degrade, the visual character and quality of its surroundings.

Greenwood Crossovers

The Greenwood crossovers would marginally increase the light rail guideway footprint compared to Alternatives 1 and 3. The Greenwood crossovers would be at-grade and integrated with the existing light rail guideway infrastructure within the public roadway ROW, maintaining the visual continuity of the area. The crossovers would result in additional sliver property takes along the Washington Boulevard frontage. This would not result in land use changes or otherwise result in substantial visual

changes that could degrade the existing visual character or public views. Construction activities and their associated impacts would be practically identical to described in the Recirculated Draft EIR. Therefore, the Greenwood crossovers would not conflict with local regulations or substantially degrade the existing visual character of the area. Operation and construction of the Greenwood crossovers would alter, but not substantially degrade, the visual character and quality of its surroundings.

Lambert Crossover

The Lambert crossover and tail tracks would extend the tracks further south and require additional full property takes of commercial properties. The crossover and tail tracks would blend with the existing transportation infrastructure in the vicinity and would not intrude on the visual character of the surrounding area, including residential properties that back up to the alignment. Furthermore, the Project would adhere to all local regulations related to visual quality, including those pertaining to height, setback, and lighting. Construction activities and their associated impacts would be practically identical to described in the Recirculated Draft EIR. Therefore, the Lambert crossover would not substantially degrade the existing visual character of the area. Operation and construction of the Lambert crossover would alter, but not substantially degrade, the visual character and quality of its surroundings.

2.4.1.4 Impact AES-4 (Light and Glare)

2.4.1.4.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. With the Guideway Refinement, the aerial to at-grade guideway transition segment would be located between Vail Avenue and Maple Avenue; this transition segment would be predominantly vertical columns and a support wall that do not have surfaces that would reflect or generate substantial light. The materials chosen for the construction would be non-reflective and not cause glare during the daytime. Furthermore, any necessary lighting fixtures for the Guideway Refinement would be designed to be downward-facing and shielded to prevent light spillage, thereby minimizing any potential light pollution during nighttime. Construction activities with the Guideway Refinement and their associated impacts would be practically identical to those analyzed in the Recirculated Draft EIR. The Guideway Refinement would have less than significant impacts relative to light and glare. The Recirculated Draft EIR evaluation of light and glare impacts would not change; the impact determination would remain less than significant for both operation and construction.

2.4.1.4.2 Crossover Refinements

The Crossover Refinements, being primarily underground or at at-grade, would not introduce a significant new source of light or glare. The design of the Crossover Refinements would be such that any necessary lighting would be directed downwards, minimizing light spillage and glare. Furthermore, given the urban context at all of the crossover locations, the ambient light levels are already elevated due to existing infrastructure, meaning any additional light or glare from the Crossover Refinements would be negligible. The materials used for rail crossovers would be chosen to minimize reflectivity, further reducing potential glare. During nighttime, lighting would be kept to the minimum required for safety, thus preserving the nighttime views. Construction activities for the Crossover Refinements and their associated impacts would be practically identical to those evaluated

in the Recirculated Draft EIR. Therefore, the Crossover Refinements would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. The Recirculated Draft EIR evaluation of impacts related to light and glare would not change. The impact would remain less than significant for both operation and construction.

2.4.1.5 Aesthetics Conclusion

As described above, the Design Refinements would not result in any material difference in impacts to aesthetics compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on aesthetics (Impact AES-1, Impact AES-2, Impact AES-3 and Impact AES-4) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to aesthetics.

2.4.2 Air Quality

The Recirculated Draft EIR assessed potential impacts on air quality in Section 3.2 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to air quality if it would:

- Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan.
- Impact AQ-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.
- Impact AQ-3: Expose sensitive receptors to substantial pollutant concentrations.
- Impact AQ-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Additionally, although not explicitly listed in Appendix G of the State CEQA Guidelines, a Build Alternative would have a significant impact related to Human Health if it would:

- Impact HR-1: Expose sensitive receptors to toxic air contaminants (TAC) that would be likely to cause a substantial increase in human health risks.

2.4.2.1 Impact AQ-1 (Air Quality Plan)

2.4.2.1.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 and would not result in any differences in the project footprint or operations. Construction would vary only in that the length of the aerial segment and the at-grade segment would change. Thus, as with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, the Guideway Refinement would not introduce new population or housing growth, disproportionately contribute to growth projections, or delay the timely attainment of air quality standards or interim emission reductions specified in the Air Quality Management Plan (AQMP). Therefore, the Recirculated Draft EIR evaluation of whether the

Project would conflict with or obstruct implementation of the applicable air quality plan would remain the same. The impact would remain less than significant.

2.4.2.1.2 Crossover Refinements

The Maravilla crossover would be located within the existing Metro E Line guideway and operation of the Maravilla crossover would not change Metro E Line operations. The underground Atlantic/Whittier Station crossover and at-grade Greenwood crossovers and Lambert crossovers would require a small increase to the overall project footprint of the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. However, the Crossover Refinements would not change how the Project operates and would result in no material difference in the Project's operational emissions.

While implementation of the Crossover Refinements would require additional construction, demolition, and excavation as compared to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, construction activities and necessary equipment at all crossover locations would be similar to those activities required to construct a comparable length of the guideway evaluated in the Recirculated Draft EIR. Construction of the larger subgrade area for the Atlantic/Whittier Station and additional at-grade area for the Greenwood crossovers may increase the duration of construction activities at these locations, and construction in the areas beyond the alignment studied in the Recirculated Draft EIR for the Maravilla crossover and Lambert crossover and tail tracks would increase the area and duration of construction activities. However, this additional construction would be expected to increase the duration but not the construction intensity or peak day emissions of construction relative to that analyzed in Section 3.2 of the Recirculated Draft EIR. Therefore, as evaluated in the Recirculated Draft EIR, the Crossover Refinements would not introduce new population or housing growth, disproportionately contribute to the growth projections, or delay the timely attainment of air quality standards or interim emission reductions specified in the AQMP. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of the applicable air quality plan would remain the same. The impact would remain less than significant.

2.4.2.1.3 Design Refinements Combined Impact

Implementation of the Project with the Guideway Refinement and Crossover Refinements would require additional construction and would result in no changes to operational conditions relative to the base alternatives. While additional construction would be required, none of the Design Refinements would increase the intensity of construction, nor extend the duration of construction such that the Design Refinements would overlap with the estimated peak day of construction emissions under any of the base alternatives. Therefore, as evaluated in the Recirculated Draft EIR, the combined Design Refinements would not introduce new population or housing growth, disproportionately contribute to the growth projections, or delay the timely attainment of air quality standards or interim emission reductions specified in the AQMP. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of the applicable air quality plan would remain the same. The impact would remain less than significant.

2.4.2.2 Impact AQ-2 (Regional Criteria Pollutant)

2.4.2.2.1 Guideway Refinement

The operation of Alternatives 1 and 3 analyzed in the Recirculated Draft EIR would result in a net reduction in operational regional criteria air pollutant emissions of carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO_2), inhalable particulate matter or particulate matter with an

aerodynamic diameter less than or equal to 10 micrometers (PM_{10}), and fine particulate matter or particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers ($PM_{2.5}$) and a small net increase in operational regional criteria air pollutant emissions of volatile organic compounds (VOC), and impacts with respect to operational regional criteria pollutant emissions would be less than significant. Implementation of Alternative 1 or 3 with the Guideway Refinement would result in no meaningful change to operational regional criteria air pollutant emissions as compared to Alternatives 1 and 3 analyzed in the Recirculated Draft EIR. Emission reductions would be driven by the reduction in vehicle miles traveled (VMT) for motor vehicles associated with ridership of the Metro E Line extension. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to operational regional criteria pollutant emissions would not change. Impacts would remain less than significant.

Implementation of Alternative 1 or 3 with the Guideway Refinement would result in daily construction regional criteria pollutant emissions that would be greater than those of the base Alternatives 1 and 3 but lower than those of the Alternatives 1 and 3 with the Montebello At-Grade Option, as presented in Section 3.2 of the Recirculated Draft EIR. Construction of the at-grade segment for the Guideway Refinement would have a higher peak day emission than an aerial configuration at this location due to a larger count of heavy-duty equipment needed during the peak day. This additional equipment is associated with the greater amount of roadway demolition, modification, or reconstruction necessary for the at-grade construction as compared to aerial construction. However, construction of the Guideway Refinement is not expected to overlap with other Project elements to contribute to overall peak day regional emissions of VOC, NOx, CO, SO_2, PM_{10}, or $PM_{2.5}$. Additional construction best management practices (BMPs) set forth in Metro's Green Construction Policy would further reduce construction-related emissions beyond what is presented in the Recirculated Draft EIR. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to construction regional criteria pollutant emissions would not change. Impacts would remain less than significant.

2.4.2.2.2 Crossover Refinements

The operation of Alternatives 1 and 3 would result in a net reduction in operational regional criteria air pollutant emissions of CO, NOx, SO_2, PM_{10}, and $PM_{2.5}$ and a small net increase in operational regional criteria air pollutant emissions of VOC; impacts with respect to operational regional criteria pollutant emissions would be less than significant. Implementation of Alternative 1 or 3 with the Crossover Refinements would result in no meaningful change to operational regional criteria air pollutant emissions as compared to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Emission reductions would be driven by the reduction in VMT associated with ridership of the Metro E Line extension. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to operational regional criteria pollutant emissions would not change. Impacts would remain less than significant.

While implementation of the Crossover Refinements would require additional construction, demolition, and excavation, construction activities and necessary equipment would be similar to those activities required to construct a comparable length of the guideway and underground station area (for the Atlantic/Whittier station crossover), as evaluated in the Recirculated Draft EIR. Due to the Maravilla crossover's location being separate from the proposed guideway, construction activities at this location would not be expected to overlap with other Project elements to contribute to overall peak day regional emissions of VOC, NOx, CO, SO_2, PM_{10}, or $PM_{2.5}$. For the Atlantic/Whittier Station crossover, Greenwood crossovers, and Lambert crossover, there would likely be an increase the duration of construction activities at their respective locations, but this is not expected to increase the construction intensity or peak day construction activities relative to that analyzed in Section 3.2 of the Recirculated Draft EIR. Therefore, the construction activities associated with the Crossover Refinements would not be expected to overlap with other Project elements to increase the overall peak

day regional emissions of VOC, NOx, CO, SO_2, PM_{10}, or $PM_{2.5}$. Additional construction BMPs set forth in Metro's Green Construction Policy would further reduce construction-related emissions beyond what is presented in the Recirculated Draft EIR. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to construction regional criteria pollutant emissions would not change. Impacts would remain less than significant.

2.4.2.2.3 Design Refinements Combined Impact

Implementation of the Project with the Guideway Refinement and Crossover Refinements would require additional construction and would result in no changes to operational conditions relative to the base alternatives. While additional construction would be required, none of the Design Refinements would be anticipated to increase the intensity of construction, nor extend the duration of construction such that the Design Refinements would contribute to overall peak day regional emissions of VOC, NOx, CO, SO_2, PM_{10}, or $PM_{2.5}$. Moreover, additional construction BMPs set forth in Metro's Green Construction Policy would further reduce construction-related emissions beyond what is presented in the Recirculated Draft EIR. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to regional criteria pollutant emissions would not change. Impacts would remain less than significant.

2.4.2.3 Impact AQ-3 (Localized Pollutant Concentrations)

2.4.2.3.1 Guideway Refinement

Operation of Alternatives 1 and 3 with the Guideway Refinement would result in no meaningful change to operational localized criteria air pollutant emissions as compared to the Alternatives 1 and 3 analyzed in the Recirculated Draft EIR. Since the highest-volume intersections identified in the DSA would have traffic volumes below that of the Bay Area Air Quality Management District (BAAQMD) screening threshold, the operation of Alternatives 1 and 3 with the Guideway Refinement would not expose sensitive receptors to substantial CO concentrations. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to operational localized criteria pollutant concentrations would not change. Impacts would remain less than significant.

Implementation of the Guideway Refinement would result in localized criteria pollutant emissions that would be greater than those of base Alternatives 1 and 3 but lower than those of Alternatives 1 and 3 with the Montebello At-Grade Option, as presented in Section 3.2 of the Recirculated Draft EIR. Construction of the at-grade segment for the Guideway Refinement would have a higher peak day emission than an aerial configuration at this location due to a larger count of heavy-duty equipment needed during the peak day. This additional equipment is associated with the greater amount of roadway demolition, modification, or reconstruction necessary for the at-grade construction as compared to aerial construction. However, construction of Alternative 1 or 3 with the Guideway Refinement would result in construction localized emissions that would be less than the South Coast Air Quality Management District (SCAQMD) thresholds. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to construction localized criteria pollutant concentrations would not change. Impacts would remain less than significant.

2.4.2.3.2 Crossover Refinements

Implementation of Alternatives 1 and 3 with the Crossover Refinements would result in no meaningful change to operational localized criteria air pollutant emissions as compared to the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Since the highest-volume intersections identified in the DSA would have traffic volumes below that of the BAAQMD screening threshold, the operation of

Alternatives 1 and 3 with the Crossover Refinements would not expose sensitive receptors to substantial CO concentrations. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to operational localized criteria pollutant concentrations would not change. Impacts would remain less than significant.

While implementation of the Crossover Refinements would require additional construction, demolition, and excavation, construction activities and necessary equipment would be similar to those activities required to construct comparable length of the at-grade guideway and underground station area (for the Atlantic/Whittier station crossover), as evaluated in the Recirculated Draft EIR. The peak localized emissions presented in Section 3.2 of the Recirculated Draft EIR include any anticipated overlap of project elements with other Project crossovers and would be less than the SCAQMD thresholds. Due to the Maravilla crossover's location being separate from the proposed guideway, construction activities at this location would not overlap with other Project and would thus be less than those peak localized emissions presented in the Recirculated Draft EIR. For the Atlantic/Whittier Station crossover, Greenwood crossovers, and Lambert crossover, the duration of construction activities at these locations would increase but this is not expected to increase the construction intensity or peak day construction activities relative to that analyzed in Section 3.2 of the Recirculated Draft EIR. Therefore, the Crossover Refinement construction activities would not be expected to overlap with other Project elements to increase the maximum peak day localized emissions of VOC, NOx, CO, SO_2, PM_{10}, or $PM_{2.5}$. Additional construction BMPs set forth in Metro's Green Construction Policy would further reduce construction-related emissions beyond what is presented in the Recirculated Draft EIR. The Recirculated Draft EIR evaluation of impacts with respect to construction localized criteria pollutant concentrations would not change. Impacts would remain less than significant.

2.4.2.3.3 Design Refinements Combined Impact

Implementation of the Project with the Guideway Refinement and Crossover Refinements would require additional construction and would result in no changes to operational conditions relative to the base alternatives. While additional construction would be required, none of the Design Refinements would be anticipated to increase the intensity of construction, nor extend the duration of construction such that the Design Refinements would contribute to overall peak localized emissions of VOC, NOx, CO, SO_2, PM_{10}, or $PM_{2.5}$. Moreover, additional construction BMPs set forth in Metro's Green Construction Policy would further reduce construction-related emissions beyond what is presented in the Recirculated Draft EIR. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to localized criteria pollutant concentrations would not change. Impacts would remain less than significant.

2.4.2.4 Impact AQ-4 (Other Emissions)

Guideway Refinement

As evaluated in the Recirculated Draft EIR for Alternatives 1 and 3, the operation of Alternatives 1 and 3 with the Guideway Refinement would comply with applicable rules established for the control of odors. The construction of the Guideway Refinement would result in odors that would be short term, highly mobile, and controlled. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to other emissions (such as those leading to odors) with the potential to adversely affect a substantial number of people would not change. The impact determination would remain less than significant for both operation and construction.

Crossover Refinements

As evaluated in the Recirculated Draft EIR, the operation of Alternatives 1 and 3 with the Crossover Refinements would comply with applicable rules established for the control of odors. The construction of the Crossover Refinements would result in odors that would be short term, highly mobile, and controlled. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to other emissions (such as those leading to odors) with the potential to adversely affect a substantial number of people would not change. The impact determination would remain less than significant for both operation and construction.

2.4.2.4.1 Design Refinements Combined Impact

Implementation of the Project with the Guideway Refinement and Crossover Refinements would require additional construction and would result in no changes to operational conditions relative to the base alternatives. While additional construction would be required, all necessary project construction would comply with applicable rules established for the control of odors, and odors from project construction would remain short term, highly mobile, and controlled. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to other emissions (such as those leading to odors) with the potential to adversely affect a substantial number of people would not change. The impact determination would remain less than significant for both operation and construction.

2.4.2.5 Impact HR-1 (Human Health Risks)

2.4.2.5.1 Guideway Refinement

Implementation of the Guideway Refinement would not change the project footprint or operations and reductions in VMT are expected to remain the same. Similar to the base Alternatives 1 and 3, operation of Alternatives 1 and 3 with the Guideway Refinement would result in a reduction in relevant TAC emissions proportional to the regional reductions in VMT from the Project. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to operational human health risk would not change. The impact determination would remain less than significant.

Construction of Alternatives 1 and 3 would result in local exposure to TAC that would be less than the SCAQMD Tier 2 screening criteria for acute, chronic, and carcinogenic exposure. Implementation of Alternatives 1 and 3 with the Guideway Refinement would result in localized criteria pollutant emissions that would be greater than those of the base Alternatives 1 and 3 but lower than those of Alternatives 1 and 3 with the Montebello At-Grade Option. Similar TAC emission sources and construction activities would be required to complete either the base Alternatives 1 and 3, Alternatives 1 and 3 with the Montebello At-Grade Option, or the Alternatives 1 and 3 with the Guideway Refinement, and the types and relative quantities of TAC emissions would also be similar. Therefore, construction of the Guideway Refinement would result in local exposure to TAC that would be less than the SCAQMD Tier 2 screening criteria for acute, chronic, and carcinogenic exposure. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to construction human health risk would not change. The impact determination would remain less than significant.

2.4.2.5.2 Crossover Refinements

Implementation of the Crossover Refinements would not meaningfully change the project footprint or operations and reductions in VMT are expected to remain the same. Similar to the base Alternatives 1 and 3 analyzed in the Recirculated Draft EIR, operation of Alternatives 1 and 3 with the Crossover Refinements would result in a reduction in relevant TAC emissions proportional to the regional

reductions in VMT from the Project. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to operational human health risk would not change. The impact determination would remain less than significant.

Construction of the base Alternatives 1 and 3 would result in local exposure to TAC that would be less than the SCAQMD Tier 2 screening criteria for acute, chronic, and carcinogenic exposu2.re. While implementation of the Crossover Refinements would require additional construction, similar TAC emission sources and construction activities would be required to construct other planned crossovers under the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. For the at-grade crossovers, (e.g., Maravilla crossover, Greenwood crossovers, and Lambert crossover), the types and relative quantities of TAC emissions would also be similar. For the underground Atlantic/Whittier Station crossover which includes a larger underground station area, the TAC emission sources and construction activities would be similar to that of the Alternatives 1 and 3 although the quantities of TAC emissions from construction of the Atlantic/Whitter station would be greater proportional to the increase in station area required for the crossover. With the crossover refinement, the station area would increase from 46,000 square feet to 82,000 square feet, an increase of 78 percent. As shown in Section 3.2.6.5 of the Recirculated Draft EIR, the maximum exposed resident and worker risk would be, at most, five times below the SCAQMD Tier 2 screening criteria for each alternative. Thus, the marginal increase in exposure from additional construction would not have the potential to increase risks to a level approaching or exceeding the SCAQMD Tier 2 screening criteria.

Moreover, the localized area representative of the maximum TAC emissions exposure evaluated in the Recirculated Draft EIR was not the guideway segment which would include the Atlantic/Whittier Station crossover, Greenwood crossovers, or Lambert crossover construction. Thus, the marginal increase to the TAC emissions from construction of these crossover refinements would not increase the TAC emissions exposure of the maximally exposed individual relative to that analyzed in Section 3.2 of the Recirculated Draft EIR.

Thus, construction of the Crossover Refinements would result in local exposure to TAC that would be less than the SCAQMD Tier 2 screening criteria for acute, chronic, and carcinogenic exposure. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to construction human health risk would not change. The impact determination would remain less than significant.

2.4.2.5.3 Design Refinements Combined Impact

Implementation of the Project with the Guideway Refinement and Crossover Refinements would require additional construction and would result in no changes to operational conditions relative to the base alternatives. While additional construction would be required, none of the Design Refinements would be anticipated to occur in the same segment of the alignment which resulted in the maximum individual exposure of TAC analyzed in the Recirculated Draft EIR. Moreover, the Design Refinement resulting in the highest individual increase in TAC emissions (78 percent for the Atlantic/Whittier Station crossover) would not have the potential to substantively increase maximum TAC exposure relative to that presented in the Recirculated Draft EIR or the SCAQMD Tier 2 screening criteria. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to human health risk would not change. The impact determination would remain less than significant.

2.4.2.6 Air Quality Conclusion

As described above, the Design Refinements, whether considered individually or combined, would not result in any material difference in air quality impacts compared to those described for Alternative 1

and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on air quality (Impact AQ-1, Impact AQ-2, Impact AQ-3, Impact AQ-4, and Impact HR-1) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to air quality.

2.4.3 Biological Resources

The Recirculated Draft EIR assessed potential impacts on biological resources in Section 3.3 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to biological resources if it would:

- Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Impact BIO-3: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Impact BIO-4: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

2.4.3.1 Impact BIO-1 (Protected Species)

2.4.3.1.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 analyzed in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. Construction would vary in that the length of the aerial segment and the at-grade segment would change. As with Alternative 1 and 3 evaluated in the Recirculated Draft EIR, operation and construction of the Guideway Refinement would not impact special-status species because of the developed nature of the biological resources study area (BRSA) and lack of suitable habitat along the alignment. Additionally, no suitable bat roosting habitat exists near the location of the Guideway Refinement. Therefore, the Recirculated Draft EIR evaluation of impacts on special-status species and bats would not change. There would be no impacts on sensitive species and the impact on bats would remain less than significant with mitigation.

As evaluated in the Recirculated Draft EIR, migratory birds could nest in street trees. During operations, tree trimming along the alignment during would primarily affect smaller branches that may be starting to encroach into the transit right-of-way where most birds would be unlikely to nest. Further, maintenance activities would be required to comply with the Migratory Bird Treaty Act (MBTA), California Fish and Game Code, and other regulations protecting migratory birds. Additionally, in the event that tree trimming is needed during the tree establishment maintenance period, implementation of MM BIO-4, which requires nesting bird surveys and avoidance of active

nests during the bird nesting season, as revised in Chapter 5 of the Final EIR, would ensure that bird nests would be avoided.

During construction, vegetation disturbance along the Guideway Refinement during the bird nesting season would result in potentially significant impacts on migratory birds regardless of the guideway configuration. Implementation of MM BIO-4, as revised in Chapter 5 of the Final EIR, would ensure that bird nests would be avoided. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation and construction of the Guideway Refinement to less than significant and the Recirculated Draft EIR evaluation of impacts on migratory birds would not change. The impact would remain less than significant with mitigation for both operation and construction.

2.4.3.1.2 Crossover Refinements

Maravilla Crossover

The Maravilla crossover is located just outside of the BRSA analyzed in the Recirculated Draft EIR, however, no habitat for special status species is present due to the developed nature of the site and surrounding area. Further, all work would occur within the existing paved ROW. Therefore, operation and construction of the Maravilla crossover would not impact special-status species. No suitable bat roosting habitat exists near the Maravilla crossover location. Therefore, the Recirculated Draft EIR evaluation of impacts on special-status species and bats would not change. There would be no impacts on sensitive species and the impact on bats would remain less than significant with mitigation.

As with the guideway alignment evaluated in the Recirculated Draft EIR, a few street trees are located adjacent to the Maravilla crossover location. As evaluated in the Recirculated Draft EIR, migratory birds could nest in street trees. During operations, tree trimming along the alignment during would primarily affect smaller branches that may be starting to encroach into the transit right-of-way where most birds would be unlikely to nest. Further, maintenance activities would be required to comply with the MBTA, California Fish and Game Code, and other regulations protecting migratory birds. Additionally, in the event that tree trimming is needed during the tree establishment maintenance period, implementation of MM BIO-4, which requires nesting bird surveys and avoidance of active nests during the bird nesting season, would ensure that bird nests would be avoided. During construction, disturbances to vegetation and structures along all portions of the alignment, including the Maravilla crossover, that provide bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4 would ensure that bird nests would be avoided during construction of the Project, including at the Maravilla crossover. Compliance with regulations protecting nesting birds and implementation of MM BIO-4 would reduce impacts on migratory birds from operation and construction of the Maravilla crossover to less than significant and the Recirculated Draft EIR evaluation of impacts on migratory birds would not change. The impact would remain less than significant with mitigation for both operation and construction.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover would result in a larger footprint of the underground Atlantic/Whittier station evaluated in the Recirculated EIR. This would occur in a developed area with a lack of suitable habitat for special-status species or bats. Thus, the operation and construction of the crossover would not impact special-status species or bats. The Recirculated Draft EIR evaluation of impacts on special-status species and bats would not change. There would be no impacts on sensitive species and the impact on bats would remain less than significant with mitigation.

Migratory birds could nest in street trees. Because the crossover would be located underground, maintenance would not require tree trimming. However, as evaluated in the Recirculated Draft EIR, construction could require vegetation disturbance. Any vegetation disturbance during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, which requires nesting bird surveys and avoidance of active nests during the bird nesting season, would ensure that bird nests would be avoided during maintenance and construction. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from construction of the Atlantic/Whittier Station crossover to less than significant and the Recirculated Draft EIR evaluation of impacts on migratory birds would not change. The impact would remain less than significant with mitigation for both operation and construction.

Greenwood Crossovers

The Greenwood crossovers are located along the alignment evaluated in the Recirculated Draft EIR in a developed area with a lack of suitable habitat for special-status species or bats. Thus, operation and construction of the crossovers would not impact special-status species or bats, and the Recirculated Draft EIR evaluation of impacts on special-status species and bats would not change. There would be no impacts on sensitive species and the impact on bats would remain less than significant with mitigation.

Street trees are located adjacent to the Greenwood crossovers location. As evaluated in the Recirculated Draft EIR, migratory birds could nest in street trees. During operations, tree trimming along the alignment would primarily affect smaller branches that may be starting to encroach into the transit right-of-way where most birds would be unlikely to nest. Further, maintenance activities would be required to comply with the MBTA, California Fish and Game Code, and other regulations protecting migratory birds. Additionally, in the event that tree trimming is needed during the tree establishment maintenance period, implementation of MM BIO-4, which requires nesting bird surveys and avoidance of active nests during the bird nesting season, would ensure that bird nests would be avoided. During construction, disturbances to vegetation and structures along all portions of the alignment, including the Greenwood crossovers, that provide bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4 would ensure that bird nests would be avoided during construction, including at the Greenwood crossovers. Compliance with regulations protecting nesting birds and implementation of MM BIO-4 would reduce impacts on migratory birds from operation and construction of the Greenwood crossovers to less than significant and the Recirculated Draft EIR evaluation of impacts on migratory birds would not change. The impact would remain less than significant with mitigation for both operation and construction.

Lambert Crossover

Although the Lambert crossover is located just outside of the BRSA analyzed in the Recirculated Draft EIR, no habitat for special status species is present due to the developed nature of the site and surrounding area. No suitable bat roosting habitat exists near the Maravilla crossover location. Therefore, the Recirculated Draft EIR evaluation of impacts on special-status species and bats would not change. There would be no impacts on sensitive species and the impact on bats would remain less than significant with mitigation.

Street trees are located adjacent to the Lambert crossover location. As evaluated in the Recirculated Draft EIR, migratory birds could nest in street trees. During operations, tree trimming along the alignment during operations would primarily affect smaller branches that may be starting to encroach

into the transit right-of-way where most birds would be unlikely to nest. Further, maintenance activities would be required to comply with the MBTA, California Fish and Game Code, and other regulations protecting migratory birds. Additionally, in the event that tree trimming is needed during the tree establishment maintenance period, implementation of MM BIO-4, which requires nesting bird surveys and avoidance of active nests during the bird nesting season, would ensure that bird nests would be avoided. During construction, disturbances to vegetation and structures along all portions of the alignment, including the Lambert crossover, that provide bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4 would ensure that bird nests would be avoided during construction, including at the Lambert crossover. Compliance with regulations protecting nesting birds and implementation of MM BIO-4 would reduce impacts on migratory birds from operation and construction of the Greenwood crossovers to less than significant and the Recirculated Draft EIR evaluation of impacts on migratory birds would not change. The impact would remain less than significant with mitigation for both operation and construction.

2.4.3.2 Impact BIO-2 (Riparian Habitat/Sensitive Natural Community)

2.4.3.2.1 Guideway Refinement

As described under Impact BIO-1, the Guideway Refinement would not result in any differences in the project footprint or operations and construction would vary only because the length of the at-grade and aerial segments would change. As evaluated in the Recirculated Draft EIR, no sensitive vegetation communities exist within the BRSA of Alternative 1 or 3; therefore, there would be no impacts on sensitive vegetation communities from operation or construction of the Guideway Refinement and the impact determination in the Recirculated Draft EIR would not change.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, maintenance activities would primarily occur within developed or paved areas. Thus, as with the base guideway alignment, it is unlikely that operation of the Project with Guideway Refinement would introduce or spread invasive plants; impacts would remain less than significant. The area affected by the Guideway Refinement consists of structures, roads, parking lots, driveways, sidewalks, and other hardscaped areas. No vegetation communities (e.g., trees grouped together to form a canopy) exist along this area. Because construction would occur in developed or paved areas and would not affect vegetation communities, it is unlikely that construction of the Project would introduce or spread invasive plants or tree disease pathogens; the impact determination in the Final EIR would not change and would remain less than significant with mitigation for Alternative 1 and less than significant for Alternative 3.

2.4.3.2.2 Crossover Refinements

As described in the Recirculated Draft EIR, the Atlantic/Whittier Station crossover and Greenwood crossovers would be within in a developed area with no sensitive vegetation communities. Although the Maravilla and Lambert crossovers are located just outside of the BRSA analyzed in the Recirculated Draft EIR, they have a similar urban setting to the BRSA. The Maravilla crossover is located in the ROW with existing LRT track adjacent to development. The Lambert crossover is in an area with existing commercial development between residential uses and Lambert Road. No sensitive vegetation communities are present at these sites and surrounding area due to the developed nature. Furthermore, work would occur almost entirely within paved areas. Therefore, operation and construction of the Maravilla and Lambert crossovers would not impact sensitive vegetation

communities. Thus, Recirculated Draft EIR evaluation of impacts on sensitive vegetation communities in would not change; there would be no impacts from operation and construction.

Equipment used for maintenance activities has the potential to transport invasive plant seeds if used in areas of exposed soil. However, maintenance activities would primarily occur within developed or paved areas. Thus, it is unlikely that operation of the crossovers would introduce or spread invasive plants; the Recirculated Draft EIR evaluation of operational impacts with respect to invasive species spread would not change and would remain less than significant.

The area affected by the Crossover Refinements consists of structures, roads, parking lots, driveways, sidewalks, and other hardscaped areas. No vegetation communities (e.g., trees grouped together to form a canopy) exist along any of the crossovers. Because construction would occur in developed or paved areas and would not affect vegetation communities, it is unlikely that construction of the Project would introduce or spread invasive plants or tree disease pathogens; the impact determination in the Final EIR would not change and would remain less than significant with mitigation for Alternative 1 and less than significant for Alternative 3.

2.4.3.3 Impact BIO-3 (Movement of Fish and Wildlife Species)

2.4.3.3.1 Guideway Refinement

The Guideway Refinement would not result in any differences in the project footprint or operations and construction would vary in that the length of the at-grade and aerial segments would change. The Guideway Refinement does not cross the Rio Hondo, San Gabriel River, other aquatic corridors, or established terrestrial wildlife corridors. Therefore, the evaluation of impacts on the movement of fish and wildlife species in the Recirculated Draft EIR would not change. The impact determination would remain less than significant for operation and construction of Alternative 1 and there would be no impact under operation and construction of Alternative 3.

2.4.3.3.2 Crossover Refinements

The Crossover Refinements are located in developed urban areas and would not cross the Rio Hondo, San Gabriel River, other aquatic corridors, or established terrestrial wildlife corridors. Therefore, the evaluation of impacts on the movement of fish and wildlife species in the Recirculated Draft EIR would not change. The impact determination would remain less than significant for operation and construction of Alternative 1 and there would be no impact under operation and construction of Alternative 3.

2.4.3.4 Impact BIO-4 (Policies and Ordinances)

2.4.3.4.1 Guideway Refinement

The Guideway Refinement would not result in any differences in the project footprint or operations and construction would vary only because the length of the at-grade and aerial segments would change. Any maintenance of LRT facilities that entails tree trimming and any construction that requires tree removal or trimming would be conducted in accordance with local policies and municipal codes that protect native trees and street trees. Therefore, the Recirculated Draft EIR evaluation of impacts related to conflicts with local policies and municipal codes protecting trees or other biological

resources would not change. The impact determination would remain less than significant for both operation and construction.

2.4.3.4.2 Crossover Refinements

As described under Impact BIO-1, there are street trees located at the crossover locations (with the exception of the Atlantic/Whittier Station crossover, which would be underground). Any maintenance of LRT facilities that entails tree trimming and any construction that requires tree removal or trimming would be conducted in accordance with local policies and municipal codes that protect native trees and street trees. Therefore, the Recirculated Draft EIR evaluation of impacts related to conflicts with local policies and municipal codes protecting trees or other biological resources would not change. The impact determination would remain less than significant for both operation and construction.

2.4.3.5 Biological Resources Conclusion

As described above, the Design Refinements would not result in any material difference in biological resources impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on biological resources (Impact BIO-1, Impact BIO-2, Impact BIO-3, and Impact BIO-4) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to biological resources.

2.4.4 Cultural Resources

The Recirculated Draft EIR assessed potential impacts on cultural resources in Section 3.4 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to cultural resources if it would:

- Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to 15064.5
- Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5.
- Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries.

2.4.4.1 Impact CUL-1 (Historical Resources)

2.4.4.1.1 Guideway Refinement

Greenwood School, the South Montebello Irrigation District Building, and the William and Florence Kelly House are located approximately 0.3 miles east of the Guideway Refinement's transition from an aerial to at-grade configuration. As evaluated in the Recirculated Draft EIR, these resources would not be physically demolished, destroyed, relocated, or altered during operation and construction. Although, similar to the Montebello At-Grade Option for Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, the Guideway Refinement's at-grade alignment would introduce new visual, audible, and atmospheric elements within the immediate surroundings, the setting of the buildings is

already modern and adjacent to a major road within existing sources of noise and vibration. The Guideway Refinement would not alter the noise and vibration levels identified in the Recirculated Draft EIR. Noise and vibration impacts would not exceed the Federal Transit Administration (FTA) moderate noise impact criteria (noise) or FTA frequent impact criteria (vibration) at these historical resources, and thus, these resources would not be susceptible to significant noise or vibration impacts that could cause a substantial adverse change to a historic resource. Further, the at-grade alignment and station would follow the existing transportation corridor and would not limit views of the resources. Therefore, the Recirculated Draft EIR evaluation of impacts on historic properties would not change. The impact determination would remain less than significant for operation and less than significant with mitigation for construction.

2.4.4.1.2 Crossover Refinement

Maravilla Crossover

Although the Maravilla crossover is located just outside of the Area of Potential Effects (APE) analyzed in the Recirculated Draft EIR, this area does fall within the records search area for the Project and the results of the record search were reviewed to determine if any historical resources are located with the vicinity of the crossover. One resource, the Griffith STEAM Magnet Middle School (formerly the David Wark Griffith Middle School) (4765 4th Street) is located east of the Maravilla crossover, opposite Mednick Avenue. The Griffith STEAM Magnet Middle School, initially constructed in 1939, is a Spanish Eclectic style school campus eligible for local register listing significant for its design (assigned NRHP status code 5S2). Between 1953 to 1965, the school expanded eastward, adding single and two-story Modern style buildings characterized by rectangular plans, flat roofs with broad overhanging eaves, concrete construction clad in stucco, and ribbons of casement and sash windows. The school's original core, located west of the 4th Street and Mednik Avenue intersection, consists of three Spanish Eclectic and Modern style buildings. The main administration building, which faced 4th Street to the south, was demolished and rebuilt as the extant building between 1972 and 1980. The school is a historical resource for the purposes of CEQA.

The Maravilla crossover is located approximately 250 feet away from the Griffith STEAM Magnet Middle School grounds and approximately 290 feet from the nearest school building. No contributing elements or character defining features of the resource are located adjacent to the ROW, as this area is currently characterized by a contemporary sports complex comprised of athletic fields and non-historic sports facilities. Further, all crossover construction work would occur within the existing Metro E Line and paved ROW.

The Maravilla crossover would have no direct or indirect impacts on any historical resources or their immediate surroundings due to the distance of the crossover from historical resources in the APE. Because there is existing LRT track, the at-grade Maravilla crossover would result in minor changes in the visual, audible, and atmospheric elements within the immediate surroundings; further, the setting of the existing alignment is modern and adjacent to a major road within existing sources of noise and vibration. Given the distance from the crossover, noise and vibration impacts would not exceed the FTA moderate noise impact criteria (noise) or FTA frequent impact criteria (vibration) at this historical resource, and thus, this resource would not be susceptible to significant noise or vibration impacts that could cause a substantial adverse change to a historic resource. Further, the Maravilla crossover would follow the existing transportation corridor and would not limit views of the resource. Therefore, the Recirculated Draft EIR evaluation of impacts on historic properties would not change. The impact determination would remain less than significant for operation and less than significant with mitigation for construction.

Atlantic/Whittier Station Crossover

Operation and construction of the Atlantic/Whittier station crossover would not affect historical resources differently than the Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. Operation and construction of the Atlantic/Whittier Station crossover would have no direct or indirect impacts on any historical resources or their immediate surroundings due to the distance of the alignment from historical resources in the APE. There are no historical resources within the vicinity of the Atlantic/Whittier station crossover; the nearest historical resource, the Golden Gate Theater, is located over 350 feet away from the crossover along the underground portion of the alignment, and it would not be directly or indirectly affected. Operation and construction of the Atlantic/Whittier Station crossover would have less than significant noise, vibration, and visual impacts and would not cause a substantial adverse change to a historic resource. Thus, operation and construction of the Atlantic/Whittier Station crossover would have a less than significant impact on historical resources. The Recirculated Draft EIR evaluation of impacts on historical resources would not change. The impact determination would remain less than significant for operation and less than significant with mitigation for construction.

Greenwood Crossovers

The Greenwood crossovers are located along the alignment evaluated in the Recirculated Draft EIR. The crossovers are adjacent to two historical resources identified in the Recirculated Draft EIR – the South Montebello Irrigation District Building and the William and Florence Kelly House. The Greenwood crossovers would involve partial property acquisitions, or sliver takes, of both these properties to accommodate for sidewalk improvements.

A portion (approximately 5 feet wide by 50 feet in length) of the existing, non-historic, asphalt parking lot at the South Montebello Irrigation District Building would be acquired to accommodate the realignment of the sidewalk. The asphalt parking lot is not a contributing element or character defining feature of the resource. This modification would not result in any removal of contributing elements or character-defining features of the South Montebello Irrigation District Building. The South Montebello Irrigation District Building would not be physically demolished, destroyed, relocated, or altered during construction. The Greenwood crossovers adjacent to the building would introduce new visual, audible, and atmospheric elements within the immediate surroundings. However, the setting of the building has already been extensively modified and includes modern infrastructure and uses. Although the proposed crossovers would introduce a permanent visual element directly in front of the building, the visual change would be at-grade and the existing setting would be left largely intact. Further, given the distance from the crossovers, noise and vibration impacts would not exceed the FTA moderate noise impact criteria (noise) or FTA frequent impact criteria (vibration) at this historical resource, and thus, this resource would not be susceptible to significant noise or vibration impacts that could cause a substantial adverse change to a historic resource.

A portion (approximately 5 feet wide by 50 feet in length) of the existing, non-historic, concrete driveway and landscaping at the William and Florence Kelly House would be removed to accommodate for realignment of the sidewalk. The driveway and landscaping are not contributing elements or character defining features of the resource. This modification would not result in any of contributing elements or character-defining features of the William and Florence Kelly House. The William and Florence Kelly House would not be physically demolished, destroyed, relocated, or altered during construction. The Greenwood crossovers adjacent to the building would introduce new visual, audible, and atmospheric elements within its immediate surroundings. However, the setting of the

building has already been extensively modified and includes modern infrastructure and uses. Although the proposed crossover would introduce a permanent visual element directly in front of the building, the visual change would be at-grade and the existing setting would be left largely intact. Further, given the distance from the crossover, noise and vibration impacts would not exceed the FTA moderate noise impact criteria (noise) or FTA frequent impact criteria (vibration) at this historical resource, and thus, this resource would not be susceptible to significant noise or vibration impacts that could cause a substantial adverse change to a historic resource.

The significance of the historical resources would not be materially impaired; therefore, operation and construction of the Greenwood crossovers would result in a less than significant impact. The Recirculated Draft EIR evaluation of impacts on historical resources would not change. The impact determination would remain less than significant for operation and less than significant with mitigation for construction.

Lambert Crossover

Operation and construction of the Lambert crossover would not affect historical resources differently than Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. The Recirculated Draft EIR evaluation of impacts on historical resources would not change. Operation and construction of the Lambert crossover would have no direct or indirect impacts on any historical resources or their immediate surroundings due to the distance of the alignment from historical resources in the APE. There are no historical resources within the vicinity of the Lambert crossover; the nearest historical resource, the Rheem Laboratory, is over 1,000 feet away from the Lambert crossover, and it would not be directly or indirectly affected. Operation and construction of the Lambert crossover would have less than significant noise, vibration, and visual impacts and would not cause a substantial adverse change to a historic resource. Thus, operation and construction of the Lambert crossover would have a less than significant impact on historical resources. The Recirculated Draft EIR evaluation of impacts on historical resources would not change. The impact determination would remain less than significant for operation and less than significant with mitigation for construction.

2.4.4.2 Impact CUL-2 (Archaeological Resources)

2.4.4.2.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As with operation of Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, operation of the Guideway Refinement would not physically demolish, destroy, relocate, or alter any archaeological resources and would thus have no impact on archaeological resources. Therefore, the Recirculated Draft EIR evaluation of operational impacts on archaeological resources would not change; there would be no impact.

As evaluated in the Recirculated Draft EIR, the California Historical Resources Information System records search, additional archival research, outreach, and field survey failed to identify any archaeological sites within the Area of Direct Impacts (ADI), which includes the ROW and any areas of direct ground disturbance during project construction, including staging areas. However, it is possible that significant buried archaeological resources may exist within the ADI and these archaeological materials could be unearthed during project construction (i.e., excavation) activities. The Guideway Refinement would include a longer at-grade segment than the base Alternatives 1 and 3. Due to the

shallower construction associated with the Guideway Refinement as opposed to installation of piles for the aerial structures, there would be less potential to encounter deeply buried resources as compared to the base Alternatives 1 and 3 at this location. However, excavation associated with the Guideway Refinement still has the potential to disturb and destroy a significant archaeological resource. If unmitigated, this disturbance of a significant archaeological resource would result in a significant impact. MM CUL-8, which requires that construction workers receive training on how to proceed if cultural resources are inadvertently discovered and that a CRMMP be prepared as identified in Chapter 5 of the Final EIR, applies to the entire alignment, including the Guideway Refinement location. This mitigation measure would establish protections for unanticipated discoveries of archaeological resources and would reduce impacts to less than significant. Therefore, the Recirculated Draft EIR evaluation of construction impacts on archaeological resources would not change; the impact would remain less than significant with mitigation.

2.4.4.2.2 Crossover Refinements

Operation and construction of the Crossover Refinements would not affect archaeological resources differently than the Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. No previously recorded archaeological resources are located within the Crossover Refinement sites. Although the Maravilla and Lambert crossovers and tail tracks are located just outside of the APE analyzed in the Recirculated Draft EIR, this area does fall within the records search area for the Project and the results of the record search were reviewed to determine if any recorded archaeological resources are located with the vicinity of the crossover. Operation of the Crossover Refinements would not physically demolish, destroy, relocate, or alter any archaeological resources and would thus have no impact on archaeological resources. Therefore, the Recirculated Draft EIR evaluation of operational impacts on archaeological resources would not change; there would be no impact.

As with construction of the entire alignment evaluated in the Recirculated Draft EIR, construction of the Crossover Refinements has the potential to disturb and destroy a significant unknown archaeological resource and would result in a significant impact. MM CUL-8, provided in Chapter 5 of the Final EIR, would establish protections for unanticipated discoveries of archaeological resources and would reduce impacts associated with the entire alignment, including construction of the crossovers, to less than significant. Thus, operation of the Crossover Refinements would have no impact and construction would have a less than significant impact on archaeological resources. Therefore, the Recirculated Draft EIR evaluation of construction impacts on archaeological resources would not change; the impact would remain less than significant with mitigation.

2.4.4.3 Impact CUL-3 (Disturbance of Human Remains)

2.4.4.3.1 Guideway Refinement

The Guideway Refinement would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, operational activities would not involve excavation and would not have the potential to disturb any human remains, including those interred outside of formal cemeteries. Therefore, the Recirculated Draft EIR evaluation of operational impacts on human remains would not change; there would be no impact.

As evaluated in the Recirculated Draft EIR, there are no known cemeteries or archaeological sites including human remains within the ADI, which would include the Guideway Refinement location. However, unknown human burials may exist within the ADI, and it is possible these burials could be unearthed during excavation activities. Therefore, construction of Guideway Refinement, as with the remainder of the Project, has the potential to disturb and destroy an unknown burial. Disturbance of

unknown burial sites would result in a significant impact. Implementation of MM CUL-9, which establishes procedures for consultation and treatment if human remains are discovered, as identified Chapter 5 of the Final EIR, would ensure proper treatment of human remains would occur and would thus reduce impacts to less than significant for the entire alignment including at the Guideway Refinement location. Therefore, the Recirculated Draft EIR evaluation of construction impacts on human remains would not change; the impact would remain less than significant with mitigation.

2.4.4.3.2 Crossover Refinements

Operation and construction of the Crossover Refinements would not affect human remains differently than the Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. There are no known cemeteries or archaeological sites including human remains within the Crossover Refinement sites. This includes the Maravilla crossover which is located just outside of the APE analyzed in the Recirculated Draft EIR, but within the records search area for the Project. Operation of the Crossover Refinements would not involve excavation and would not have the potential to disturb any human remains, including those interred outside of formal cemeteries. Therefore, the Recirculated Draft EIR evaluation of operational impacts on human remains would not change; there would be no impact.

Construction of the Crossover Refinements has the potential to disturb and destroy an unknown burial and would result in a significant impact. Implementation of MM CUL-9, which establishes procedures for consultation and treatment if human remains are discovered, as identified Chapter 5 of the Final EIR, would ensure proper treatment of human remains would occur and would thus reduce impacts to less than significant. Thus, operation and construction of the Crossover Refinements would have a less than significant impact on human remains. Therefore, the Recirculated Draft EIR evaluation of construction impacts on human remains would not change; the impact would remain less than significant with mitigation.

2.4.4.4 Cultural Resources Conclusion

As described above, the Design Refinements would not result in any material difference in cultural resources impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on cultural resources (Impact CUL-1, Impact CUL-2, and Impact CUL-3) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to cultural resources.

2.4.5 Energy

The Recirculated Draft EIR assessed potential impacts on energy in Section 3.5 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to energy if it would:

- Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

2.4.5.1 Impact ENG-1 (Energy Consumption)

2.4.5.1.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, operation of Alternative 1 or 3 with the Guideway Refinement would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. Implementation of the Guideway Refinement would not result in any appreciable change to the Project's operational energy consumption as compared to the base Alternatives 1 and 3. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to operational energy consumption would not change. The impact would remain less than significant.

As described in the Recirculated Draft EIR, the construction of Alternatives 1 and 3 would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. As presented in Section 3.5 of the Recirculated Draft EIR, construction of the aerial guideway would result in slightly higher energy consumption than construction of the at-grade guideway. This is due to the lower-intensity, longer-duration nature of aerial construction activities requiring additional total energy as compared to higher-intensity shorter-duration at-grade construction. Thus, implementation of Alternative 1 or 3 with the Guideway Refinement would result in a slightly lower energy consumption than the base Alternatives 1 and 3 due to the shorter aerial segment and slightly greater than the implementation of Alternative 1 or 3 with the Montebello Design Option. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to construction energy consumption would not change. The impact would remain less than significant.

2.4.5.1.2 Crossover Refinements

With the Crossover Refinements, the guideway would follow the same route as the Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project operations. As evaluated in the Recirculated Draft EIR, operation of Alternatives 1 and 3 would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. Implementation of the Crossover Refinements would not result in any appreciable change to the Project's operational energy consumption as compared to the base Alternatives 1 and 3. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to operational energy consumption would not change. Impacts would remain less than significant.

As described in the Recirculated Draft EIR, the construction of the base Alternatives 1 and 3 would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. Implementation of the Alternatives with the Crossover Refinements would result in a slightly higher energy consumption than the base Alternatives 1 and 3 due to the need for additional construction. Impacts related to each construction of Crossover Refinements are discussed in more detail below.

Implementation of Alternatives 1 and 3 with the Maravilla crossover would result in a slightly higher energy consumption than the base Alternatives due to the need for additional construction. The general construction activities and equipment needed for construction of an at-grade crossover would be similar to those needed for construction of the same length of at-grade guideway. The Maravilla crossover would require approximately 525 feet of new guideway construction. As indicated in Section 3.5 of the Recirculated Draft EIR, implementation of Alternatives 1 and 3 with the Montebello At-Grade Option would result in a relatively small, short-term, construction related energy consumption of 2.9 billion BTUs for construction of one mile of at-grade guideway. Since the increase in construction energy consumption would be proportional to that of a similar length of at-grade alignment, the

increase in energy demand for Maravilla crossover's 525 feet of new guideway would be proportional by length to the energy consumption of one mile of at-grade guideway and would be approximately 0.3 billion BTU, a marginal increase.

As indicated in Section 3.5 of the Recirculated Draft EIR, construction of the three proposed underground stations would result in short-term, construction related energy consumption of 26.5 billion BTUs, approximately one-third (8.8 billion BTUs) of which would be associated with Atlantic/Whittier Station. With the Crossover Refinement, the subgrade area would increase from 46,000 square feet to 82,000 square feet, an increase of 78 percent. Energy consumption associated with construction of the Atlantic/Whittier Station crossover would increase proportional to the increased area, resulting an increase of approximately 6.9 billion BTU. While construction of the Atlantic/Whittier Station crossover would result in a short-term increase to energy consumption, implementation of the crossover would facilitate the safe and efficient operation of the alignment and would contribute to the long-term operational energy benefits of the Project.

Implementation of the Greenwood crossovers and Lambert crossover and tail tracks would result in a slightly higher energy consumption than the base Alternatives 1 and 3 due to the need for additional construction. The general construction activities and equipment needed for construction of an at-grade crossover would be similar to those needed for construction of the same length of at-grade guideway. Therefore, the energy demand associated with the Greenwood crossovers, which would be located where at-grade guideway was assumed under Alternatives 1 and 3, would not substantially differ from that included in the guideway construction estimates in the Recirculated Draft EIR. The energy demand associated with the Lambert crossover would also not substantially differ for the portions of the crossover located where at-grade guideway was assumed under Alternative 1 but would be greater because of the 350 feet of new tail track associated with the crossover. As indicated in Section 3.5 of the Recirculated Draft EIR, implementation of the Alternatives 1 and 3 with the Montebello At-Grade Design Option would result in a relatively small, short-term, construction related energy consumption of 2.9 billion BTUs for construction of one mile of at-grade guideway. Since the increase in construction energy consumption would be proportional to that of a similar length of at-grade alignment, the increase in energy demand for Lambert crossover's 350 feet of new tail track would be proportional by length to the energy consumption of one mile of at-grade guideway and would be approximately 0.2 billion BTU, a marginal increase. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to construction energy consumption would not change. Impacts would remain less than significant.

2.4.5.1.3 Design Refinements Combined Impact

Implementation of the Project with the Guideway Refinement and Crossover Refinements would require additional construction and would result in no changes to operational conditions relative to the base alternatives. The Guideway Refinement, Marvilla crossover, Atlantic/Whittier Station crossover, and Lambert station crossover would each increase construction energy consumption relative to the base alternatives presented in the Recirculated Draft EIR. The Greenwood crossovers would result in marginal differences due to the similarity in construction needs to the lengths of at-grade guideway assumed to be constructed in the crossovers' locations in the Recirculated Draft EIR. Overall, total construction energy consumption would be expected to be slightly higher than presented in the Recirculated Draft EIR. However, while construction of the Design Refinements would result in short-term increase to energy consumption, implementation of the refinements would facilitate the safe and efficient operation of the alignment and would contribute to the long-term operational energy benefits of the Project. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to energy consumption would not change. Impacts would remain less than significant.

2.4.5.2 Impact ENG-2 (Energy Plans)

2.4.5.2.1 Guideway Refinement

As mentioned above, the Guideway Refinement would not result in any differences in the project footprint or operations. Operation of Alternatives 1 and 3 with the Guideway Refinement would remain consistent with applicable plans, such as the California Alternative Fuels Plan, SCAG's 2020 RTP/SCS, and Metro energy-related plans. Construction of the Guideway Refinement would vary only in that the length of the aerial segment and the at-grade segment would change. Construction of the Guideway Refinement would remain consistent with applicable construction plans and policies, such as CCR Title 24 and Metro's 2011 Green Construction Policy. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of a state or local plan for renewable energy or energy efficiency would remain the same. The impact would remain less than significant.

2.4.5.2.2 Crossover Refinements

As mentioned above, the Crossover Refinements would not result in any differences in the project operations. Operation of the base Alternatives with the Crossover Refinements would remain consistent with applicable plans, such as the California Alternative Fuels Plan, SCAG's 2020 RTP/SCS, and Metro energy-related plans. Construction of the Crossover Refinements would only minorly alter the existing footprint of the guideway and would remain consistent with applicable construction plans and policies, such as CCR Title 24 and Metro's Green Construction Policy. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of a state or local plan for renewable energy or energy efficiency would remain the same. The impact would remain less than significant.

2.4.5.2.3 Design Refinements Combined Impact

Implementation of the Project with the Guideway Refinement and Crossover Refinements would require additional construction and would result in no changes to operational conditions relative to the base alternatives. Whether considered individually or combined, operation of Alternatives 1 and 3 with the Design Refinements would remain consistent with applicable plans, such as the California Alternative Fuels Plan, SCAG's 2020 RTP/SCS, and Metro energy-related plans, and construction of the Design Refinements would remain consistent with applicable construction plans and policies, such as CCR Title 24 and Metro's 2011 Green Construction Policy. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of a state or local plan for renewable energy or energy efficiency would remain the same. The impact would remain less than significant.

2.4.5.3 Energy Conclusion

As described above, the Design Refinements would not result in any material difference in energy impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on energy resources (Impact ENG-1 and Impact ENG-2) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to energy resources.

2.4.6 Geology, Seismicity, Soils, and Paleontological Resources

The Recirculated Draft EIR assessed potential impacts on geology, seismicity, soils, and paleontological resources in Section 3.6 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to geology, seismicity, soils, and paleontological resources if it would:

- Impact GEO-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42)
  - Strong seismic ground shaking
  - Seismic-related ground failure, including liquefaction
  - Landslides
- Impact GEO-2: Result in substantial soil erosion or the loss of topsoil.
- Impact GEO-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- Impact GEO-4: Be located on expansive soil, as defined in Section 1803.5.3 of the CBC,[3] creating substantial direct or indirect risks to life or property.
- Impact GEO-5: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

2.4.6.1 Impact GEO-1 (Exposure to Seismic Hazards)

2.4.6.1.1 Guideway Refinement

The Guideway Refinement would follow the same route as the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, neither the operation of construction of the aerial guideway nor at-grade guideway segments would cause potential substantial seismic effects, including the risk of loss, injury, or death from known earthquake fault rupture, strong seismic ground shaking, seismic-related ground failure including liquefaction, and landslides. The Project, including the Guideway Refinement, would be designed in compliance with regulatory requirements, industry standards, and the MRDC; the implementation of project measures as described in the Recirculated Draft EIR would remain unchanged. Thus, the Recirculated Draft EIR evaluation of impacts would not change; impacts would remain less than significant for operation and construction.

3 Appendix G of the CEQA Guidelines refers to Table 18-1-B of the Uniform Building Code. That provision no longer exists. Instead, Section 1803.5.3 of the CBC describes the criteria for analyzing expansive soils.

2.4.6.1.2 Crossover Refinements

The Atlantic/Whittier Station crossover and the Greenwood crossovers would result in marginal increases in the guideway footprint and require additional property acquisition compared to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Atlantic/Whittier Station crossover would be located along an underground guideway segment and would require a partial take of a commercial property to accommodate an emergency egress. The Greenwood crossovers would require partial property takes of two properties along the guideway. The minor increases in the guideway footprint and partial takes required for the Atlantic/Whittier Station crossover and Greenwood crossovers would not change the Project's seismic risk compared to the base Alternatives 1 and 3.

The Maravilla crossover and Lambert crossover would be located slightly outside the guideway route that was evaluated under Alternatives 1 and 3 in the Recirculated Draft EIR but within the DSA that was used to assess potential seismic impacts. As with the base Alternatives 1 and 3, the Maravilla crossover and Lambert crossover are not located on a known active fault capable of ground rupture; however, the risk of seismic shaking, liquefaction, and seismically-induced settlement, would remain consistent with that evaluated in the Recirculated Draft EIR. Project measure PM GEO-1, described in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, would likewise address these risks. Thus, the Recirculated Draft EIR evaluation of impacts would not change; the impact determination would remain less than significant for both operation and construction.

2.4.6.2 Impact GEO-2 (Soil Erosion)

2.4.6.2.1 Guideway Refinement

The Guideway Refinement would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would cause potential substantial erosion or loss of topsoil. As with the Project, the Guideway Refinement would be located within an urbanized area and comply with post-construction measures in applicable National Pollutant Discharge Elimination System (NPDES) permits and Low Impact Development (LID) standards required by Los Angeles County and other local jurisdictions which aim to minimize erosion impacts from development projects. As described in the Recirculated Draft EIR, construction with the Guideway Refinement would proceed under existing regulatory requirements, including implementation of BMPs and other erosion and sedimentation control measures, identified in project measure PM HWQ-2 (provided in Chapter 5 of the Final EIR). Thus, the Recirculated Draft EIR evaluation of impacts with risk associated with loss of topsoil or erosion would not change; the impact determination would remain less than significant for both operation and construction.

2.4.6.2.2 Crossover Refinements

The Atlantic/Whittier Station crossover and the Greenwood crossovers would result in marginal increases in the guideway footprint compared to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Operation of the entire Project, including the crossovers, would comply with post-construction measures in applicable NPDES permits and LID standards required by Los Angeles County and other local jurisdictions, which aim to minimize erosion impacts from development projects. The Atlantic/Whittier Station and Greenwood crossovers would not change the Project's risk of topsoil loss or soil erosion compared to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR.

The Maravilla and Lambert crossovers would be located slightly outside the guideway route that was evaluated under the Alternatives 1 and 3 in the Recirculated Draft EIR. These Crossover Refinements

are both located within the DSA and in a developed and urbanized area. As with the base Alternatives 1 and 3, the Maravilla and Lambert crossovers are located in paved areas with existing development and the risk of topsoil loss is negligible. Ground disturbing activities during construction would temporarily expose surficial soils to wind and water erosion; however, project measure PM HWQ-2, provided in Chapter 5 of the Final EIR and described for the Guideway Refinement above, would likewise address the risk of erosion and topsoil loss associated with construction of the Maravilla and Lambert crossovers. Thus, the Recirculated Draft EIR evaluation of impacts associated with risk associated with loss of topsoil or erosion would not change; the impact determination would remain less than significant for both operation and construction.

2.4.6.3 Impact GEO-3 (Unstable Geologic Units or Soils)

2.4.6.3.1 Guideway Refinement

The Guideway Refinement would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, this guideway segment is located on stable soils and not in an area mapped to have the potential to experience liquefaction and settlement. Operations would not occur on a geologic unit or soil that is unstable, or that would become unstable as a result of the Guideway Refinement. Further, as required by project measure PM GEO-1, provided in Chapter 5 of the Final EIR, the entire Project, including the Guideway Refinement, would be designed in compliance with MRDC, the California Seismic Hazards Mapping Act, industry standards, and recommendations contained in the design level geotechnical report. The range of construction activities required to construct the Guideway Refinement would be identical to that required for Alternatives 1 and 3 evaluated in the Recirculated Draft EIR; the Guideway Refinement would not result in a change to the impact determination. Thus, the Recirculated Draft EIR evaluation of impacts relative to soil stability would not change; the impact determination would remain less than significant for both operation and construction.

2.4.6.3.2 Crossover Refinements

The Atlantic/Whittier Station crossover and the Greenwood crossovers would result in marginal increases in the guideway footprint compared to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Operations would not occur on a geologic unit or soil that is unstable, or that would become unstable as a result of the crossovers. Further, entire Project, including the crossovers, would be designed in compliance with MRDC, the California Seismic Hazards Mapping Act, industry standards, and recommendations contained in the design level geotechnical report. The Atlantic/Whittier Station and Greenwood crossovers would not change the Project's risk of liquefaction or settlement compared to the base Alternatives 1 and 3.

The Maravilla and Lambert crossovers would be located slightly outside the guideway route that was evaluated under the Alternatives 1 and 3 in the Recirculated Draft EIR but within the DSA. The Maravilla crossover is not located on soils subject to liquefaction. As illustrated in the Recirculated Draft EIR GSA liquefaction and landslide hazard zone map, the Maravilla crossover would be stationed on stable soils and not in an area mapped to have the potential to experience liquefaction and settlement and would, therefore, not change the Project's risk of liquefaction or settlement.

As with the eastern portion of the Alternative 1 alignment evaluated in the Recirculated Draft EIR, the Lambert crossover would be located on soils subject to liquefaction. As described in the Recirculated Draft EIR, the area is underlain by young alluvial fan deposits which may be subject to liquefaction and lateral spread. However, the operational demands of, and construction activities for, the Lambert

crossover are functionally identical to those already evaluated in the Recirculated Draft EIR. As with Alternative 1, the Lambert crossover would be designed and constructed in accordance with the MRDC, the California Seismic Hazards Mapping Act, and industry standards and recommendations contained in the design level geotechnical report, as set forth in PM GEO-1, provided in Chapter 5 of the Final EIR. As with Alternative 1 evaluated in the Recirculated Draft EIR, operational and construction impacts of the Lampert crossover would be less than significant.

Thus, the Recirculated Draft EIR evaluation of impacts relative to soil stability would not change; the impact determination would remain less than significant for both operation and construction.

2.4.6.4 Impact GEO-4 (Expansive Soils)

2.4.6.4.1 Guideway Refinement

The Guideway Refinement would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As with the base Alternatives 1 and 3, the Guideway Refinement would be located on potentially expansive soils that could swell or shrink with wetting and drying. The range of construction activities required to construct the Guideway Refinement would be identical to that required for the base Alternatives 1 and 3, and would include PM GEO-1, as provided in Chapter 5 of the Final EIR, that entails design and construction in accordance with MRDC, the California Seismic Hazards Mapping Act, and industry standards and recommendations contained in the design level geotechnical report, which would reduce potential impacts associated with expansive soils. Thus, the Recirculated Draft EIR evaluation of impacts would not change; the impact determination would remain less than significant for both operation and construction.

2.4.6.4.2 Crossover Refinements

As with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, the Crossover Refinements may be located on clay-rich soils that could swell and shrink with wetting and drying. The Crossover Refinements would be designed and constructed in accordance with the MRDC, Los Angeles County and other applicable local building codes, CBC, and other applicable design specifications as identified in PM GEO-1 (provided in Chapter 5 of the Final EIR). Thus, the Recirculated Draft EIR evaluation of impacts would not change; the impact determination would remain less than significant for both operation and construction.

2.4.6.5 Impact GEO-5 (Paleontological Resources)

2.4.6.5.1 Guideway Refinement

The Guideway Refinement would follow the same route as the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. Operation of the Guideway Refinement would not introduce operational differences that could result in impacts to paleontological resources. The range of construction activities required to construct the Guideway Refinement would be identical to that required for the base Alternatives 1 and 3. The Guideway Refinement is located within old alluvial fan deposits which have a high sensitivity for paleontological resources, including undisturbed sediments near the surface. Therefore, construction of Alternatives 1 and 3 with either an aerial or an at-grade configuration at this location could disturb significant paleontological resources. As identified in the Recirculated Draft EIR, mitigation measures MM GEO-1 through MM GEO-4 provided in Chapter 5 of the Final EIR, would continue to apply and

would mitigate impacts associated with aerial and at-grade construction to less than significant. As with the base Alternatives 1 and 3, significant unavoidable impacts on paleontological resources from operation of the tunnel boring machine (TBM) would remain present; however, the Guideway Refinement would not change any of the operational parameters of the TBM (locations, distances, durations) and therefore, would not change the risk of impacts on paleontological resources as evaluated in the Recirculated Draft EIR. Thus, the Recirculated Draft EIR evaluation of impacts would not change; the impact determination would remain less than significant for operation, and significant and unavoidable with mitigation for construction.

2.4.6.5.2 Crossover Refinements

Operation of the Crossover Refinements would not introduce operational differences that could result in impacts to paleontological resources. Construction of the Crossover Refinements would require ground disturbance; however, construction activities would be functionally identical to that evaluated in the Recirculated Draft EIR for Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. As identified in the Recirculated Draft EIR, mitigation measures MM GEO-1 through MM GEO-4 provided in Chapter 5 of the Final EIR, would continue to apply and would mitigate impacts associated at-grade construction to less than significant. As with the base Alternatives 1 and 3, significant unavoidable impacts on paleontological resources from operation of the TBM would remain present; however, the Crossover Refinements would not change any of the operational parameters of the TBM (locations, distances, durations) and therefore would not change the risk of impacts on paleontological resources as evaluated in the Recirculated Draft EIR. Thus, the Recirculated Draft EIR evaluation of impacts would not change; the impact determination would remain less than significant for operation, and significant and unavoidable with mitigation for construction.

2.4.6.6 Geology, Seismicity, Soils, and Paleontological Resources Conclusion

As described above, the Design Refinements would not result in any material difference in geology, seismicity, soils, and paleontological resources impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on geology, seismicity, soils, or paleontological resources (GEO-1, GEO-2, GEO-3, GEO-4, and GEO-5) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to geology, seismicity, soils, and paleontological resources.

2.4.7 Greenhouse Gas Emissions

The Recirculated Draft EIR assessed potential impacts on greenhouse gas emissions in Section 3.7 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to greenhouse gas emissions if it would:

- Impact GHG-1: Would a Build Alternative generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Impact GHG-2: Would a Build Alternative conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

2.4.7.1 Impact GHG-1 (Emission Generation)

2.4.7.1.1 Guideway Refinement

As described in the Recirculated Draft EIR, the operation of Alternatives 1 and 3 would result in a decrease in greenhouse gas (GHG) emissions at the project level. The Project would be consistent with state and regional climate strategies to increase mass transit, and would thus result in an incremental contribution to climate change which would be less than significant. While the Guideway Refinement would slightly alter the configuration of Alternatives 1 and 3, it would not be expected to increase or decrease ridership of the light rail system, nor would it be expected to appreciably increase or decrease VMT relative to the base Alternatives 1 and 3. Thus, implementation of Alternative 1 or 3 with the Guideway Refinement would result in no meaningful difference in operational GHG emissions as compared to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, nor would it alter the Project's contribution to or consistency with the state and regional mass transit climate strategies. Therefore, the Recirculated Draft EIR evaluation of whether operation of the Project would result in an incremental contribution to climate change would not change. Impacts would remain less than significant.

As described in the Recirculated Draft EIR, the construction of Alternatives 1 and 3 would not result in a significant incremental contribution to climate change. As presented in Section 3.7 of the Recirculated Draft EIR, construction of Alternatives 1 and 3 with the Montebello At-Grade Option would reduce GHG emissions relative to the base aerial configuration. This is due to the lower-intensity, longer-duration nature of aerial construction activities requiring additional energy as compared to higher-intensity shorter-duration at-grade construction. Implementation of Alternative 1 or 3 with the Guideway Refinement would therefore result in slightly lower GHG emissions than the base Alternatives 1 and 3 and slightly greater emissions than Alternatives 1 and 3 with the Montebello At-Grade Option and would result in no meaningful change to the Project's incremental contribution to climate change. Therefore, construction of Alternatives 1 and 3 with the Guideway Refinement would be consistent with state and regional climate strategies to increase mass transit. The Recirculated Draft EIR evaluation of whether construction of the Project would result in an incremental contribution to climate change would not change. Impacts would remain less than significant.

2.4.7.1.2 Crossover Refinements

With the Crossover Refinements, the guideway would follow the same route as the base Alternatives and would not result in any differences in the project operations. As evaluated in the Recirculated Draft EIR, operation of the base Alternatives would not result in a significant incremental contribution to climate change. Implementation of the Crossover Refinements would not result in any appreciable change to the Project's operational GHG emissions as compared to the base Alternatives. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to operational energy consumption would not change. Impacts would remain less than significant.

As described in the Recirculated Draft EIR, the construction of the base Alternatives would not result in a significant incremental contribution to climate change. Implementation of the Alternatives 1 and 3 with the Crossover Refinements would result in slightly higher GHG emissions than the Alternatives 1 and 3 evaluated in the Recirculated Draft EIR due to the need for additional construction. Impacts related to each Crossover Refinement are discussed in more detail below.

Implementation of Alternatives 1 and 3 with the Maravilla crossover would result in slightly higher GHG emissions than the base Alternatives 1 and 3 due to the need for additional construction. The general construction activities and equipment needed for construction of an at-grade crossover would

be similar to those needed for construction of the same length of at-grade guideway. The Maravilla crossover would require approximately 525 feet of new guideway construction. As indicated in Section 3.7 of the Recirculated Draft EIR, implementation of Alternatives 1 and 3 with the Montebello At-Grade Option would result in relatively small, temporary, construction related GHG emissions of 211 metric tons (MT) carbon dioxide equivalent (CO2e) (MTCO2e) over one mile of at-grade guideway construction (or 7 MTCO2e when amortized over 30 years). Since the increase in construction GHG emissions would be proportional to that of a similar length of at-grade alignment, the increase in GHG emissions for Maravilla crossover's 525 feet of new guideway would be proportional by length to the GHG emissions of one mile of at-grade guideway and would be approximately 21 MTCO2e (or <1 MTCO2e when amortized over 30 years), a marginal increase.

As indicated in Section 3.7 of the Recirculated Draft EIR, construction of the underground stations would result in temporary, construction related GHG emissions of 1,955 $MTCO_2e$, approximately one-third (651 $MTCO_2e$) of which would be associated with Atlantic/Whittier Station. With the Crossover Refinement, the subgrade area would increase from 46,000 square feet to 82,000 square feet, an increase of 78 percent. Construction-related GHG emissions would increase proportional to the increased area, an increase of approximately 508 $MTCO_2e$ (or 17 $MTCO_2e$ when amortized over 30 years). While construction of the Atlantic/Whittier Station crossover would result in a short-term increase to GHG emissions, implementation of the crossover would facilitate the safe and efficient operation of the alignment and would contribute to the long-term GHG reduction benefits of the Project.

Implementation of Alternatives 1 and 3 with the Greenwood crossovers and Lambert crossover and tail tracks would result in a slightly higher GHG emissions than the base Alternatives 1 and 3 due to the need for additional construction. The general construction activities and equipment needed for construction of an at-grade crossover would be similar to those needed for construction of the same length of at-grade guideway. Therefore, the GHG emissions associated with the Greenwood crossovers, which would be located where at-grade guideway was assumed under Alternatives 1 and 3, would not substantially differ from that included in the guideway construction estimates in the Recirculated Draft EIR. The GHG emissions associated with the Lambert crossover would also not substantially differ for the portions of the crossover located where at-grade guideway was assumed under Alternative 1, but would be greater because of the 350 feet of new tail track associated with the crossover. As indicated in Section 3.5 of the Recirculated Draft EIR, implementation of the Alternatives 1 and 3 with the Montebello At-Grade Design Option would result in a relatively small, short-term, GHG emissions of 211 $MTCO_2e$ over one mile of at-grade guideway construction (or 7 $MTCO_2e$ when amortized over 30 years). Since the increase in construction GHG emissions would be proportional to that of a similar length of at-grade alignment, the increase in GHG emissions for Lambert crossover's 350 feet of new tail track would be proportional by length to the energy consumption of one mile of at-grade guideway and would be approximately 13 $MTCO_2e$ (or <1 $MTCO_2e$ when amortized over 30 years), a marginal increase. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to construction GHG emissions would not change. Impacts would remain less than significant.

2.4.7.1.3 Design Refinements Combined Impact

Implementation of the Project with the Guideway Refinement and Crossover Refinements would require additional construction and would result in no changes to operational conditions relative to the base alternatives. The Guideway Refinement, Marvilla crossover, Atlantic/Whittier Station crossover, and Lambert crossover, would each increase GHG emissions relative to the base alternatives presented in the Recirculated Draft EIR. The Greenwood crossovers would result in marginal differences due to the similarity in construction needs to the lengths of at-grade guideway assumed to be constructed in the crossovers' locations in the Recirculated Draft EIR. Overall, total

construction GHG emissions and operational GHG emissions, including amortized construction, would be expected to be slightly higher than presented in the Recirculated Draft EIR. However, while construction of the Design Refinements would result in short-term increase to GHG emissions, implementation of the refinements would facilitate the safe and efficient operation of the alignment and would contribute to the long-term operational GHG reduction benefits of the Project. Therefore, the Recirculated Draft EIR evaluation of impacts with respect to GHG emissions would not change. Impacts would remain less than significant.

2.4.7.2 Impact GHG-2 (Conflicts)

2.4.7.2.1 Guideway Refinement

As detailed previously, the Project would be consistent with the GHG reduction strategies of applicable plans, policies, and regulations by facilitating regional adoption of mass transit and reducing regional VMT. Because operations would remain the same with the Guideway Refinement, implementation of Alternative 1 or 3 with the Guideway Refinement would result in no change to VMT reduction projections as compared to the base Alternatives 1 and 3, nor would it alter the Project's consistency with the GHG reduction strategies of applicable plans, policies, and regulations. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of GHG emission reduction plans would remain the same. The impact would remain less than significant.

2.4.7.2.2 Crossover Refinements

As detailed previously, the Project would be consistent with the GHG reduction strategies of applicable plans, policies, and regulations by facilitating regional adoption of mass transit and reducing regional VMT. Because operations would remain the same under the Crossover Refinements, implementation of the Alternatives with the Crossover Refinements would result in no change to VMT reduction projections as compared to the base Alternatives, nor would it alter the Project's consistency with the GHG reduction strategies of applicable plans, policies, and regulations. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of GHG emission reduction plans would remain the same. The impact would remain less than significant.

2.4.7.2.3 Design Refinements Combined Impact

Implementation of the Project with the Guideway Refinement and Crossover Refinements would require additional construction and would result in no changes to operational conditions relative to the base alternatives. Whether considered individually or combined, implementation of the Design Refinements would result in no change to VMT reduction projections as compared to the base Alternatives nor would the design refinements alter the Project's consistency with the GHG reduction strategies of applicable plans, policies, and regulations. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of GHG emission reduction plans would remain the same. The impact would remain less than significant.

2.4.7.3 Greenhouse Gas Emissions Conclusion

As described above, the Design Refinements would not result in any material difference in GHG Emissions impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a

substantial increase in the severity of previously identified impacts related to GHG Emissions (Impact GHG-1 and Impact GHG-2) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to GHG Emissions.

2.4.8 Hazards and Hazardous Materials

The Recirculated Draft EIR assessed potential impacts on hazards and hazardous materials in Section 3.8 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to hazards and hazardous materials if it would:

- Impact HAZ-1: Create a significant hazard to the public or environment through the routine transport, storage, use, or disposal of hazardous materials.
- Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Impact HAZ-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and, as a result, create a significant hazard to the public or the environment.
- Impact HAZ-5: Create a safety hazard for people residing or working in the Project Area for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, or a private airstrip.
- Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Impact HAZ-7: Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

2.4.8.1 Impact HAZ-1 (Transport, Storage, Use, or Disposal of Hazardous Materials)

2.4.8.1.1 Guideway Refinement

The Guideway Refinement would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As with the base Alternatives 1 and 3, it is not anticipated that substantial quantities of hazardous materials would be routinely transported, used, stored, or disposed of during operation of the Guideway Refinement. Operation of LRT guideway would involve the use of small amounts of hazardous substances such as oil, grease, and solvents. None of these substances would be acutely hazardous. As set forth in project measure PM HAZ-1 in Chapter 5 of the Final EIR, cleaning and maintenance products are required to be labeled with appropriate cautions and do not represent a significant threat to human health and the environment. Compliance with existing regulations would

ensure proper transportation, use, and storage of hazardous materials, and operation of Alternatives 1 and 3 with the Guideway Refinement would have a less than significant impact. Thus, the Recirculated Draft EIR evaluation of impacts would not change; impacts would remain less than significant for operations.

Construction would vary only in that the length of the aerial segment and the at-grade segment would change. As discussed in the Recirculated Draft EIR, there is an established, comprehensive federal, state, regional, and local framework independent of the CEQA process that is intended to reduce the risks associated with the use, transport, and disposal of hazardous materials during construction. All Project construction, including the Guideway Refinement would require compliance with those regulations as identified in the Recirculated Draft EIR and set forth in PM HAZ-2. With compliance with existing regulations, construction of the Guideway Refinement would have a less than significant impact related to the creation of significant hazards to the public through routine transport, storage, use, and disposal of hazardous materials. Thus, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.8.1.2 Crossover Refinements

It is not anticipated that substantial quantities of hazardous materials would be routinely transported, used, stored, or disposed of during operation of the Crossover Refinements. Operation of LRT guideway would involve the use of small amounts of hazardous substances such as oil, grease, and solvents. None of these substances would be acutely hazardous. As set forth in PM HAZ-1 in Chapter 5 of the Final EIR, cleaning and maintenance products are required to be labeled with appropriate cautions and do not represent a significant threat to human health and the environment. Staff would be required to use, store, and dispose of these materials properly in accordance with label directions. Compliance with existing regulations would ensure proper transportation, use, and storage of hazardous materials, and operation of the Guideway Refinement would have a less than significant impact. Thus, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operations.

While implementation of the Crossover Refinements would require additional construction, demolition, and excavation, construction activities and necessary equipment would be similar to those activities required to construct other planned crossovers under the base Alternatives 1 and 3. As discussed in the Recirculated Draft EIR, there is an established, comprehensive federal, state, regional, and local framework independent of the CEQA process that is intended to reduce the risks associated with the use, transport, and disposal of hazardous materials during construction. All Project construction, including the crossovers would require compliance with those regulations as identified in the Recirculated Draft EIR and set forth in PM HAZ-2. With compliance with existing regulations, construction of the Crossover Refinements would have a less than significant impact related to the creation of significant hazards to the public through routine transport, storage, use, and disposal of hazardous materials. Thus, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.8.2 Impact HAZ-2 (Release of Hazardous Materials)

2.4.8.2.1 Guideway Refinement

The Guideway Refinement entails a refinement in the location of the transition from the aerial to at-grade configurations that was studied in the Recirculated Draft EIR for Alternatives 1 and 3 and would not result in any differences in the project footprint or operations. It is not anticipated that substantial quantities of hazardous materials would be routinely transported, used, stored, or disposed of during

operation of the Guideway Refinement. Operation of LRT guideway would involve the use of small amounts of hazardous substances such as oil, grease, and solvents. None of these substances would be acutely hazardous. As set forth in PM HAZ-1 in Chapter 5 of the Final EIR, cleaning and maintenance products are required to be labeled with appropriate cautions and do not represent a significant threat to human health and the environment. Compliance with existing regulations would ensure proper transportation, use, and storage of hazardous materials, and operation of the Guideway Refinement would have a less than significant impact. Thus, the Recirculated Draft EIR evaluation of impacts would not change. Impacts would remain less than significant for operations.

Construction would vary only in that the length of the aerial segment and the at-grade segment would change. As evaluated in the Recirculated Draft EIR, during ground preparation and construction activities, construction workers and the public could come in contact with and be exposed to the documented or undocumented hazardous materials and conditions, including potential exposure of construction workers and/or the public to chemical compounds in soils, soil gases, and groundwater; potential localized spread of contamination; potential exposure of workers, the public, and the environment to airborne chemical compounds migrating from the construction or demolition areas; and potential accidents during transportation of contaminated slurry or soils or groundwater. As discussed in the Recirculated Draft EIR, potentially affected parcels within one-quarter mile of the Guideway Refinement location may have subsurface contamination from undocumented releases associated with current and/or historical uses of the property(ies). Elevated concentrations of lead and chromium may be present in the striping paint used on the existing roadways. Therefore, construction of the Guideway Refinement would potentially create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials, which, without mitigation, would be a significant impact.

Mitigation measures MM HAZ-1 through MM HAZ-5, as discussed in the Recirculated Draft EIR and presented in Chapter 5 of the Final EIR, would be implemented and apply to all Project construction, including the Guideway Refinement. These measures would ensure that workers have a clear understanding of hazardous materials that may occur in the construction area as well as procedures and plans for safely handling hazardous materials and would reduce impacts to less than significant. The Recirculated Draft EIR evaluation of impacts would not change. Impacts would remain less than significant with mitigation for construction.

2.4.8.2.2 Crossover Refinements

It is not anticipated that substantial quantities of hazardous materials would be routinely transported, used, stored, or disposed of during operation of the Crossover Refinements. As evaluated in the Recirculated Draft EIR for Alternatives 1 and 3, operation of Alternatives 1 and 3 with the Guideway Refinement would involve the use of small amounts of hazardous substances such as oil, grease, and solvents. None of these substances would be acutely hazardous. Compliance with existing regulations would ensure proper transportation, use, and storage of hazardous materials, and operation of the Guideway Refinement would have a less than significant impact. Thus, the Recirculated Draft EIR evaluation of impacts would not change. Impacts would remain less than significant for operations.

While implementation of the Crossover Refinements would require additional construction, demolition, and excavation, construction activities would be similar to those activities required to construct other planned crossovers under the base Alternatives 1 and 3. As evaluated in the Recirculated Draft EIR, during construction, construction workers and the public could come in contact with and be exposed to the documented or undocumented hazardous materials and conditions, including potential exposure of construction workers and/or the public to chemical compounds in soils, soil gases, and groundwater; potential localized spread of contamination;

potential exposure of workers, the public, and the environment to airborne chemical compounds migrating from the construction or demolition areas; and potential accidents during transportation of contaminated slurry or soils or groundwater. As discussed in the Recirculated Draft EIR, potentially affected parcels within one-quarter mile of may have subsurface contamination from undocumented releases associated with current and/or historical uses of the property(ies). Elevated concentrations of lead and chromium may be present in the striping paint used on the existing roadways. Therefore, construction of the Guideway Refinement would potentially create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials, which, without mitigation, would be a significant impact.

Mitigation measures MM HAZ-1 through MM HAZ-5, as discussed in the Recirculated Draft EIR and presented in Chapter 5 of the Final EIR, would be implemented and apply to all Project construction, including the Crossover Refinements. These measures would ensure that workers have a clear understanding of hazardous materials that may occur in the construction area as well as procedures and plans for safely handling hazardous materials and would reduce impacts to less than significant. The Recirculated Draft EIR evaluation of impacts would not change. Impacts would remain less than significant with mitigation for construction.

2.4.8.3 Impact HAZ-3 (Hazardous Materials Within One-Quarter Mile of a School)

2.4.8.3.1 Guideway Refinement

The Guideway Refinement entails a refinement in the location of the transition from the aerial to at-grade configurations that was studied in the Recirculated Draft EIR for Alternatives 1 and 3 and would not result in any differences in the project footprint or operations. As with Alternatives 1 and 3, the Greenwood Elementary School (900 South Greenwood Avenue) is within one-quarter mile of the Guideway Refinement. As discussed under Impact HAZ-1 in the Recirculated Draft EIR, operation the LRT guideway would involve the use of small amounts of hazardous substances such as oil, grease, solvents, paints, common cleaning materials, and pesticides. None of these substances would be acutely hazardous. As set forth in PM HAZ-1, provided in Chapter 5 of the Final EIR, cleaning and maintenance products are required to be labeled with appropriate cautions and instructions for handling, storage and disposal, and do not represent a significant threat to human health and the environment. Staff would be required to use, store, and dispose of these materials properly in accordance with label directions. This would apply to the entire Project, including the Guideway Refinement and therefore, operation of the Guideway Refinements would have less than significant impacts associated with the transportation, use, storage, and handling of hazardous materials within one-quarter mile of an existing school. The Recirculated Draft EIR evaluation of impacts would not change. Impacts would remain less than significant for operations.

As with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, construction of the Guideway Refinement would involve handling of hazardous materials. By implementing the stormwater pollution prevention plan (SWPPP) and associated BMPs, construction-related hazardous substances, such as oil and grease, would be managed through appropriate material handling and BMPs as mandated by the State Water Resources Control Board (SWRCB) Construction General Permit and set forth in PM HAZ-2, provided in Chapter 5 of the Final EIR. In addition, transportation of hazardous materials would comply with State regulations governing hazardous materials transport included in the California Vehicle Code (Title 13 of the California Code of Regulations), the State Fire Marshal Regulations (Title 19 of the California Code of Regulations), and Title 22 of the California Code of Regulations. Cooperation with the corridor cities would occur throughout the construction process.

Restrictions on haul routes can be incorporated into the construction specifications according to local permitting requirements as set forth in PM HAZ-2. As with the base Alternatives 1 and 3, with compliance with of existing regulations, construction of the Guideway Refinement would have a less than significant impact associated with the transportation, use, storage, and handling hazardous materials within one-quarter mile of an existing school. The Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.8.3.2 Crossover Refinements

There is one school, the Griffith Stream Magnet Middle School (4765 E 4th St, East Los Angeles), within one-quarter mile of the Maravilla crossover; two schools, the KIPP Raices Academy (668 Atlantic Boulevard) and KIPP Promesa Prep (5156 Whittier Boulevard), within one-quarter mile of the Atlantic/Whittier Station crossover; one school, Greenwood Elementary School, (900 South Greenwood Avenue) within one-quarter mile of the Greenwood crossovers and no schools within one-quarter mile of the Lambert crossover.

As discussed in Impact HAZ-1, operation the LRT guideway would involve the use of small amounts of hazardous substances such as oil, grease, solvents, paints, common cleaning materials, and pesticides. None of these substances would be acutely hazardous. As set forth in PM HAZ-1, cleaning and maintenance products are required to be labeled with appropriate cautions and instructions for handling, storage and disposal, and do not represent a significant threat to human health and the environment. Staff would be required to use, store, and dispose of these materials properly in accordance with label directions. Therefore, as evaluated in the Recirculated Draft EIR for Alternatives 1 and 3, operation of the crossovers would have less than significant impacts associated with the transportation, use, storage, and handling of hazardous materials within one-quarter mile of an existing school. The Recirculated Draft EIR evaluation of impacts would not change. The impact would continue to be less than significant for operations.

Construction of the crossovers would involve handling of hazardous materials. Such activities, if not appropriately managed, could result in hazardous emissions that would potentially affect nearby schools. By implementing the SWPPP and associated BMPs, construction-related hazardous substances, such as oil and grease, would be managed through appropriate material handling and BMPs as mandated by the SWRCB Construction General Permit and set forth in PM HAZ-2, provided in Chapter 5 of the Final EIR. In addition, transportation of hazardous materials would comply with State regulations governing hazardous materials transport included in the California Vehicle Code (Title 13 of the California Code of Regulations), the State Fire Marshal Regulations (Title 19 of the California Code of Regulations), and Title 22 of the California Code of Regulations. Cooperation with the corridor cities would occur throughout the construction process. Restrictions on haul routes can be incorporated into the construction specifications according to local permitting requirements as set forth in PM HAZ-2. As evaluated in the Recirculated Draft EIR for Alternatives 1 and 3, with compliance with existing regulations, construction of the crossovers would have a less than significant impact associated with the transportation, use, storage, and handling hazardous materials within one-quarter mile of an existing school. The Recirculated Draft EIR evaluation of impacts would not change. The impact would continue to be less than significant for construction.

2.4.8.4 Impact HAZ-4 (Hazardous Materials Sites (Government Code Section 65962.5)

2.4.8.4.1 Guideway Refinement

The Guideway Refinement entails a refinement in the location of the transition from the aerial to at-grade configurations that was studied in the Recirculated Draft EIR for Alternatives 1 and 3 and would not result in any differences in the project footprint or operations. No parcels proposed for the at-grade guideway are located on hazardous materials sites included on the Cortese list. Therefore, the Recirculated Draft EIR evaluation of impacts would not change. There would continue to be no impact for operations and a less than significant impact with mitigation for construction.

2.4.8.4.2 Crossover Refinements

There are no parcels located on hazardous materials sites related to Government Code Section 65962.5, commonly known as the Cortese list, within or near the Maravilla crossover, the Atlantic/Whittier Station crossover, or the Greenwood crossovers. Therefore, the Recirculated Draft EIR evaluation of impacts would not change. There would continue to be no impact from operations and a less than significant impact with mitigation for construction.

As identified in the Recirculated Draft EIR, the eastern portion of Alternative 1, from approximately Sorensen Avenue to Lambert Road/Santa Fe Springs Road, is situated within Operable Unit 2 (OU2) of the Omega Superfund Site which is on the Cortese list (19280436). The Lambert crossover is also within OU2. As identified for Alternative 1 in the Recirculated Draft EIR, any health risks to the public and/or the environment associated with release of hazardous materials would be mitigated during construction and would not occur after construction is complete. No ground-disturbing activities would occur during operation that could result in hazardous releases of contaminated soils from Cortese-listed hazardous materials sites thereby creating a significant hazard to the public or the environment. Therefore, the Recirculated Draft EIR evaluation of impacts would not change. There would continue to be no impact from operations.

As identified in the Recirculated Draft EIR for Alternative 1, contaminated groundwater associated with the Omega Superfund Site is known to be present at depths from approximately 40 to 100 feet below ground surface (bgs) and extends to approximately 200 feet bgs in some areas. Therefore, the potential to encounter contaminated groundwater that results in human health and environmental hazards is low. Additional screening level risk evaluations conducted by the USEPA and investigations conducted the RWQCB and DTSC concluded that exposure to soil gas from the Omega site posed a low health risk. Construction that disturbs existing soil or groundwater contamination from hazardous materials release sites or other sources, could pose a health risk to construction workers, the public, and/or the environment if not characterized, handled, and disposed of properly. As with construction for all of the eastern portion of the Alternative 1, ground-disturbing activities could potentially encounter soil or groundwater contamination and, without mitigation, could be a significant impact. MM HAZ-1 through MM HAZ-5, provided in Chapter 5 of the Final EIR, would be implemented. Implementation of MM HAZ-1 through MM HAZ-5 would ensure that workers have a clear understanding of hazardous materials that may occur in the construction area as well as procedures and plans for safely handling and minimizing risk from hazardous materials; thus, impacts would be reduced to less than significant. Therefore, the Recirculated Draft EIR evaluation of impacts would not change. There would continue to be a less than significant impact with mitigation for construction.

2.4.8.5 Impact HAZ-5 (Airport Land Use Plans)

2.4.8.5.1 Guideway Refinement

The Guideway Refinement is not within two miles of a public airport or public use airport, or a private airstrip and there are no applicable airport land use plans. Therefore, operation and construction of the Guideway Refinement would have no impact with respect to safety hazards for people residing or working in the area. The Recirculated Draft EIR evaluation of airport hazards would not change. There would continue to be no impact from operations and construction.

2.4.8.5.2 Crossover Refinements

The Crossover Refinements are not within two miles of a public airport or public use airport, or a private airstrip and there are no applicable airport land use plans. Therefore, operation and construction of the Crossover Refinements would have no impact with respect to safety hazards for people residing or working in the area. The Recirculated Draft EIR evaluation of airport hazards would not change. There would continue to be no impact from operations and construction.

2.4.8.6 Impact HAZ-6 (Emergency Response or Emergency Evacuation Plan)

2.4.8.6.1 Guideway Refinement

The Guideway Refinement entails a refinement in the location of the transition from the aerial to at-grade configurations that was studied in the Recirculated Draft EIR for Alternatives 1 and 3 and would not result in any differences in the project footprint or operations. Operation of the Guideway Refinement would not affect emergency response differently than the base Alternatives 1 and 3. As discussed in the Recirculated EIR, Metro would coordinate with fire and police protection officials when designing grade crossings to ensure that emergency access would be maintained. In addition, all new LRT guideway, stations, and crossings would be designed in accordance with Metro Rail Design Criteria (MRDC), including Fire/Life Safety Design Criteria, to ensure safety and minimize potential hazards at all locations. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for operation.

As with the entire alignment evaluated in the Recirculated Draft EIR, construction of the Guideway Refinement could result in temporary lane and/or road closures, increased truck traffic, and other roadway effects that could slow emergency vehicles or require detours, temporarily increasing response times and impeding existing services. Traffic control during construction would follow local jurisdiction guidelines. As set forth in PM HAZ-2, identified in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, standard practices require that lane and/or road closures are scheduled to minimize disruptions and that a Traffic Management Plan is prepared and approved with authorities having jurisdiction in coordination with local fire and police departments prior to construction including the development of detour routes to facilitate traffic movement (see Impact TRA-4 in **Section 2.4.14** for further discussion). The nearest local first responders would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing. Therefore, construction of the Guideway Refinement would not impair implementation of or physically interfere with any adopted emergency response or evacuation plans. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for construction.

2.4.8.6.2 Crossover Refinements

Operation of the Crossover Refinements would not affect emergency response differently than the Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. As discussed in the Recirculated EIR, Metro would coordinate with fire and police protection officials when designing grade crossings to ensure that emergency access would be maintained. In addition, all new LRT guideway, stations, and crossings would be designed in accordance with MRDC, including Fire/Life Safety Design Criteria, to ensure safety and minimize potential hazards at all locations. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for operation.

As with the entire alignment evaluated in the Recirculated Draft EIR, construction of the Crossover Refinements could result in temporary lane and/or road closures, increased truck traffic, and other roadway effects that could slow emergency vehicles or require detours, temporarily increasing response times and impeding existing services. Traffic control during construction would follow local jurisdiction guidelines. As set forth in PM HAZ-2, identified in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, standard practices require that lane and/or road closures are scheduled to minimize disruptions and that a Traffic Management Plan is prepared and approved with authorities having jurisdiction in coordination with local fire and police departments prior to construction including the development of detour routes to facilitate traffic movement (see Impact TRA-4 in **Section 2.4.14** for further discussion). The nearest local first responders would be notified, as appropriate, of traffic control plans during construction to coordinate emergency response routing. Therefore, construction of the Crossover Refinements would not impair implementation of or physically interfere with any adopted emergency response or evacuation plans. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for construction.

2.4.8.7 Impact HAZ-7 (Wildland Hazards)

2.4.8.7.1 Guideway Refinement

The Guideway Refinement is located in a highly developed urbanized area that is not susceptible to wildland fires. Therefore, construction and operation of the Guideway Refinement would not expose people or structures to a substantial risk of loss, injury, or death involving wildland fires. The Recirculated Draft EIR evaluation of wildfire hazards would not change. There would continue to be no impact from operation or construction.

2.4.8.7.2 Crossover Refinements

The Crossover Refinements are in a highly developed urbanized area that is not susceptible to wildland fires. Therefore, construction and operation of the Crossover Refinements would not expose people or structures to a substantial risk of loss, injury, or death involving wildland fires. The Recirculated Draft EIR evaluation of wildfire hazards would not change. There would continue to be no impact from operation or construction.

2.4.8.8 Hazards and Hazardous Materials Conclusion

As described above, the Design Refinements would not result in any material difference in hazards and hazardous materials impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental

impacts or a substantial increase in the severity of previously identified impacts on hazards and hazardous materials (Impacts HAZ-1, Impact HAZ-2, Impact HAZ-3, Impact HAZ-4, Impact HAZ-5, Impact HAZ-6, and Impact HAZ-7) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to hazards and hazardous materials.

2.4.9 Hydrology and Water Quality

The Recirculated Draft EIR assessed potential impacts on hydrology and water quality in Section 3.9 using thresholds based on Appendix G of the CEQA Guidelines; an alternative would have a significant impact related to hydrology and water quality if it would:

- Impact HWQ-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- Impact HWQ-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Impact HWQ-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - i) Result in a substantial erosion or siltation on- or off-site,
    - ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site,
    - iii) Exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or
    - iv) Impede or redirect flood flows.
- Impact HWQ-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- Impact HWQ-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

2.4.9.1 Impact HWQ-1 (Water Quality)

2.4.9.1.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. Operation of the Guideway Refinement would comply with post-construction BMPs as required by NPDES permits and set forth in PM HWQ-1 (discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR) and hazardous materials laws and regulations described in the Recirculated Draft EIR. These requirements would protect surface water and groundwater quality during operations. Therefore, the Recirculated Draft EIR evaluation of operational impacts on surface water and groundwater quality would not change. Impacts would remain less than significant.

As evaluated in the Recirculated Draft EIR, construction of the Project would comply with erosion control BMPs and the SWPPP, as required by the SWRCB Construction General Permit. Construction of the Guideway Refinement would follow these same requirements. Furthermore, construction of the Guideway Refinement would not affect the Rio Hondo, Rio Hondo Spreading Grounds, or the San Gabriel River. However, as with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, there is the potential groundwater to be encountered during construction of the Guideway Refinement. If groundwater needs to be dewatered, a significant impact would occur if the groundwater is contaminated. MM HAZ-2, which requires the preparation of a Soil and Groundwater Management Plan in consultation with LARWQCB and other appropriate regulatory agencies, would help minimize the spread of contaminated groundwater and would reduce this potential impact from construction to less than significant. Construction of the Guideway Refinement could encounter groundwater contaminated with hazardous materials from sources such as underground storage tanks. Thus, as with construction of the entire Project and evaluated in the Recirculated Draft EIR, construction of the Guideway Refinement may release contaminated groundwater into nearby surface water and groundwater, which, without mitigation, would be a significant impact. Implementation of MM HAZ-3, which requires contractors to inspect groundwater for signs of contamination, and if contaminated groundwater is found, halt work and test materials, and develop an investigation and site-specific groundwater management plan to ensure contaminants are not spread, would reduce this potential impact from construction to less than significant. This mitigation is provided in Chapter 5 of the Final EIR. Therefore, the Recirculated Draft EIR evaluation of construction impacts on surface water and groundwater quality would not change. Impacts would remain less than significant with mitigation.

2.4.9.1.2 Crossover Refinements

All Crossover Refinements would be located within the DSA analyzed in the Recirculated Draft EIR. Operation of the Crossover Refinements would comply with post-construction BMPs as required by NPDES permits and set forth in PM HWQ-1 (discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR) and hazardous materials laws and regulations described in the Recirculated Draft EIR. These requirements would protect surface water and groundwater quality during operations. Therefore, the Recirculated Draft EIR evaluation of operational impacts on surface water and groundwater quality would not change. Impacts would remain less than significant.

As evaluated in the Recirculated Draft EIR, construction would comply with erosion control BMPs and the SWPPP, as required by the SWRCB Construction General Permit. Construction of the Crossover Refinements would follow these same requirements. Furthermore, construction of the Crossover Refinements would not affect the Rio Hondo, Rio Hondo Spreading Grounds, or the San Gabriel River. However, as addressed in the Recirculated Draft EIR for Alternatives 1 and 2, construction of the Crossover Refinements could have significant impacts on water quality if dewatering activities resulted in the spread of contaminated groundwater or if construction activities encountered groundwater contaminated with hazardous materials. As discussed above, MM HAZ-2 and MM HAZ-3 would be implemented to minimize the spread of contaminated groundwater and reduce impacts to less than significant. Therefore, the Recirculated Draft EIR evaluation of construction impacts on surface water and groundwater quality would not change. Impacts would remain less than significant with mitigation.

2.4.9.2 Impact HWQ-2 (Groundwater Supplies and Recharge)

2.4.9.2.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. The Guideway Refinement would not cross the Rio Hondo, Rio Hondo Spreading Grounds, or the San Gabriel River where the majority of groundwater recharge in the DSA occurs. Because the majority of the Guideway Refinement site is paved, there would be a minimal increase in impervious surface as compared to the existing condition. Therefore, the Recirculated Draft EIR evaluation of operational impacts on groundwater supply and recharge would not change. Impacts would remain less than significant.

The deepest construction activities for the Project would be tunneling for the underground alignment at about 60 feet below ground surface. As evaluated in the Recirculated Draft EIR and revised in the Final EIR, groundwater depths are relatively deep (i.e., more than 100 feet bgs) near the underground alignment. The Guideway Refinement would not require tunneling, and therefore, construction activities would likely be above the ground water table. Therefore, the amount of water that would need to be extracted, cleaned, and disposed of during construction would be minimal and the Guideway Refinement would have less than significant impacts on groundwater recharge and groundwater supplies. Therefore, the Recirculated Draft EIR evaluation of construction impacts on groundwater supply and recharge would not change. Impacts would remain less than significant with mitigation for Alternative 1 and less than significant for Alternative 3.

2.4.9.2.2 Crossover Refinements

None of the Crossover Refinements would cross the Rio Hondo, Rio Hondo Spreading Grounds, or the San Gabriel River where the majority of groundwater recharge in the DSA occurs. Furthermore, there would be a minimal increase in impervious surface as compared to the existing condition because the locations of the refinements are primarily developed and covered with impervious surfaces, or, in the case of the Atlantic/Whittier Station crossover, underground. Therefore, the Recirculated Draft EIR evaluation of operational impacts on groundwater supply and recharge would not change. Impacts would remain less than significant.

The deepest construction activities for the Project would be tunneling for the underground alignment at about 60 feet below ground surface. As evaluated in the Recirculated Draft EIR and amended in the Final EIR, groundwater depths are relatively deep (i.e., more than 100 feet bgs) near the underground alignment. The Maravilla crossover, Greenwood crossovers, and Lambert crossover would not require tunneling, and therefore, construction activities would likely be above the ground water table. The Atlantic/Whittier Station crossover would be located underground at approximately 60 feet bgs. Because the ground water table would likely be below or at this lower level of construction activities, the likelihood that groundwater would be encountered during construction of the Atlantic/Whittier Station crossover would be reduced. Thus, the amount of water that would need to be extracted, cleaned, and disposed of during construction of the Crossover Refinements would be minimal. Therefore, the Recirculated Draft EIR evaluation of construction impacts on groundwater supply and recharge in would not change. Impacts would remain less than significant with mitigation for Alternative 1 and less than significant for Alternative 3.

2.4.9.3 Impact HWQ-3 (Drainage Patterns)

2.4.9.3.1 Guideway Refinement

Erosion and Siltation

Ground-disturbing activities have the potential to generate erosion and siltation. As evaluated in the Recirculated Draft EIR, operation of Guideway Refinement would not result in ground disturbance and there would be no change in erosion or siltation. As with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, construction of the Guideway Refinement could increase erosion and sedimentation around construction and staging areas during ground disturbing activities, such as excavation and grading. To reduce potential impacts related to erosion and siltation, a SWPPP would be prepared in compliance with the SWRCB Construction General Permit and an erosion and sediment control plan would be prepared in compliance with the Los Angeles Regional Water Quality Control Board (LARWQCB) municipal separate storm sewer system (MS4) permit. At the close of construction, areas of exposed soil that were previously paved would be restored to a paved condition. Therefore, the Recirculated Draft EIR evaluation of impacts related to erosion and siltation would not change. Impacts would remain less than significant.

Surface Runoff

The Guideway Refinement would result in a minimal increase in impervious surface, which could increase the rate or amount of stormwater runoff within the DSA. As with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, operations would comply with post-construction measures in applicable NPDES permits, LID standards, and local policies protecting water quality. These post-construction BMPs are also set forth in PM HWQ-1, discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR. Furthermore, the increase in impervious surface would be minimal because the area in which the Guideway Refinement would be located is largely paved (i.e., impervious). Therefore, the Recirculated Draft EIR evaluation of impacts related to surface runoff would not change. Impacts would remain less than significant.

Stormwater Drainage

As evaluated in the Recirculated Draft EIR, the Project, including the Guideway Refinement, would require additional permanent stormwater infrastructure, which would be operated in compliance with Los Angeles County Flood Control District and Metro drainage standards (MRDC 3.3.2 and 3.8). Construction activities could affect drainage infrastructure. However, construction activities would be temporary and would avoid these drainage structures along most of the alignment; therefore, substantial alterations to existing drainages would not occur. Storm drains affected by the Project would be connected to municipal systems per MRDC 3.3.2 and 3.8, which require the storm drain system design to be in conformance with the requirements of the agency having jurisdiction. Drainage systems for tunnels and stations, including storm drains, shall be constructed per MRDC. The contractor would be responsible for preparing the drainage plans and obtaining approval of the plans from authorities having jurisdiction prior to the start of construction. Implementation of the drainage plans and associated BMPs is also set forth in PM HWQ-2, discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR. Therefore, the Recirculated Draft EIR evaluation of impacts related to surface runoff would not change. Impacts would remain less than significant.

Flood Flows

The Guideway Refinement would be entirely within an area of minimal flood risk (FEMA-defined flood zone X) as described in the Recirculated Draft EIR. As evaluated in the Recirculated Draft EIR, the Montebello MSF site is located in a FEMA-defined 100-year flood zone. This location was historically a rock quarry that collected stormwater and flooded. However, the area has since been developed and no longer floods as stormwater is directed in the municipal stormwater management system. Furthermore, the proposed MSF site option does not contain any natural functions or values of a floodplain. The Guideway Refinement includes aerial lead tracks to the Montebello MSF that transition to at-grade. As identified in the Recirculated Draft EIR, this would not affect flood flows at the MSF site. Therefore, the Recirculated Draft EIR evaluation of impacts related to flood flows would not change. Impacts would remain less than significant with mitigation for Alternative 1 and there would be no impacts under Alternative 3.

2.4.9.3.2 Crossover Refinements

Erosion and Siltation

Ground-disturbing activities have the potential to generate erosion and siltation. Operation of the Crossover Refinements would not result in ground disturbance and there would be no change in erosion or siltation. As with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, construction of the Crossover Refinements could increase erosion and sedimentation around construction and staging areas during ground disturbing activities, such as excavation and grading. To reduce potential impacts related to erosion and siltation, a SWPPP would be prepared in compliance with the SWRCB Construction General Permit and an erosion and sediment control plan would be prepared in compliance with the LARWQCB MS4 permit. At the close of construction, areas of exposed soil that were previously paved would be restored to a paved condition. Therefore, the Recirculated Draft EIR evaluation of impacts related to erosion and siltation would not change. Impacts would remain less than significant.

Surface Runoff

The Maravilla crossover, Greenwood crossovers, and Lambert crossover would result in a minimal increase in impervious surface, which could increase the rate or amount of stormwater runoff within the DSA. The increase in impervious surface would be minimal because the locations of the Crossover Refinements are primarily developed and covered with pavement and impervious surface. The Atlantic/Whittier Station crossover would not result in an increase of impervious surfaces as it would be located underground. Operations would comply with post-construction measures in applicable NPDES permits, LID standards, and local policies protecting water quality. These post-construction BMPs are also set forth in PM HWQ-1, provided in Chapter 5 of the Final EIR. Therefore, the Recirculated Draft EIR evaluation of impacts related to surface runoff would not change. Impacts would remain less than significant.

Stormwater Drainage

As evaluated in the Recirculated Draft EIR, the Project, including the Crossover Refinements, would require additional permanent stormwater infrastructure, which would be operated in compliance with Los Angeles County Flood Control District and Metro drainage standards (MRDC 3.3.2 and 3.8). Construction activities could affect drainage infrastructure. However, construction activities would be temporary and would avoid drainage structures along most of the alignment; therefore, substantial

alterations to existing drainages would not occur. Storm drains affected by the Project would be connected to municipal systems per MRDC 3.3.2 and 3.8, which require the storm drain system design to be in conformance with the requirements of the agency having jurisdiction. Drainage systems at the stations and tunnels shall be constructed per MRDC. The contractor would be responsible for preparing the drainage plans and obtaining approval of the plans from authorities having jurisdiction. Implementation of the drainage plans and associated BMPs is also set forth in PM HWQ-2, discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR. Therefore, the Recirculated Draft EIR evaluation of impacts related to surface runoff would not change. Impacts would remain less than significant.

Flood Flows

The Crossover Refinements would be entirely within an area of minimal flood risk (FEMA-defined flood zone X) as described in the Recirculated Draft EIR. Thus, operation and construction of the Guideway Refinement would not impede or redirect flood flows and no impacts would occur. Therefore, the Recirculated Draft EIR evaluation of impacts related to flood flows would not change. Impacts would remain less than significant with mitigation for Alternative 1 and there would be no impacts under Alternative 3.

2.4.9.4 Impact HWQ-4 (Inundation)

2.4.9.4.1 Guideway Refinement

The Project, including the Guideway Refinement, would be located outside of the limits of tsunami or seiche zones. The location of the Guideway Refinement is not within a designated flood zone, and thus, this portion of the alignment is not expected to be subject to inundation. Thus, none of the Guideway Refinement site would not be subject to inundation and there would be no potential for the operation or construction of Crossover Refinements to release pollutants during inundation. Therefore, the Recirculated Draft EIR evaluation of impacts related to inundation would not change. Impacts would remain less than significant for Alternative 1 and there would be no impacts under Alternative 3.

2.4.9.4.2 Crossover Refinements

The Crossover Refinements would be located outside of the limits of tsunami and seiche zones and the designated flood zone. Thus, none of the Crossover Refinements would be subject to inundation and there would be no potential for the operation or construction of Crossover Refinements to release pollutants during inundation. Therefore, the Recirculated Draft EIR evaluation of impacts related to inundation would not change. Impacts would remain less than significant for Alternative 1 and there would be no impacts under Alternative 3.

2.4.9.5 Impact HWQ-5 (Water Management)

2.4.9.5.1 Guideway Refinement

The groundwater basin underlying the DSA is not subject to a sustainable groundwater management plan, and therefore, the operation and construction of the Guideway Refinement would not conflict with a sustainable groundwater management plan. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of a sustainable groundwater management plan would remain the same. There would be no impact.

Operation and construction of the Guideway Refinement would conflict with the LA Basin Plan if it were to degrade beneficial uses of the Rio Hondo or San Gabriel River or result in an exceedance of a TMDL established for those rivers. As with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, operational activities would comply with post-construction measures in NPDES permits, LID standards, and local policies protecting water quality. These post-construction BMPs are also set forth in PM HWQ-1, provided in Chapter 5 of the Final EIR.

Construction would comply with the SWRCB Construction General Permit and SWPPP, the LARWQCB MS4 permit, waste discharge requirements, LID standards, and local policies protecting water quality. The implementation of the SWPPP, erosion and sediment control plan, and BMPs to control erosion are also set forth in PM HWQ-2, provided in Chapter 5 of the Final EIR. Further, the Guideway Refinement would not add a substantial amount of impervious surface to the DSA as the majority of the area is already highly developed. However, as identified in the Recirculated Draft EIR for Alternatives 1 and 3, construction of the Guideway Refinement could have a significant impact on water quality if dewatering activities result in the spread of contaminated groundwater or if construction activities encounter groundwater contaminated with hazardous materials. As discussed under Impact HWQ-1, implementation of MM HAZ-2 and MM HAZ-3 would reduce impacts to less than significant for construction of the Guideway Refinements. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of a water quality control plan would remain the same. Operational impacts would remain less than significant and construction impacts would remain less than significant with mitigation.

2.4.9.5.2 Crossover Refinements

The groundwater basin underlying the DSA is not subject to a sustainable groundwater management plan, and therefore, the operation and construction of the Crossover Refinements would not conflict with a sustainable groundwater management plan. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of a sustainable groundwater management plan would remain the same. There would be no impact.

Operation and construction of the Crossover Refinements would conflict with the LA Basin Plan if they were to degrade beneficial uses of the Rio Hondo or San Gabriel River or result in an exceedance of a TMDL established for those rivers. As with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, operation of the Crossover Refinements, would comply with post-construction measures in NPDES permits, low impact development standards, and local policies protecting water quality. These post-construction BMPs are also set forth in PM HWQ-1, provided in Chapter 5 of the Final EIR.

Construction would comply with the SWRCB Construction General Permit and SWPPP, the LARWQCB MS4 permit, waste discharge requirements, LID standards, and local policies protecting water quality. The implementation of the SWPPP, erosion and sediment control plan, and BMPs to control erosion are also set forth in PM HWQ-2, provided in Chapter 5 of the Final EIR. Further, the Crossover Refinements would not add a substantial amount of impervious surface to the DSA as the majority of the area where they would be located is already highly developed and paved. However, as identified in the Recirculated Draft EIR for Alternatives 1 and 3, construction of the Crossover Refinements could have significant impacts on water quality if dewatering activities resulted in the spread of contaminated groundwater or if construction activities encountered groundwater contaminated with hazardous materials. As discussed under Impact HWQ-1, implementation of MM HAZ-2 and MM HAZ-3 would reduce impacts to less than significant for construction of the crossovers. Therefore, the Recirculated Draft EIR evaluation of whether the Project would conflict with or obstruct implementation of a water quality control plan would remain the same. Operational impacts would

remain less than significant and construction impacts would remain less than significant with mitigation.

2.4.9.6 Hydrology and Water Quality Conclusion

As described above, the Design Refinements would not result in any material difference in hydrology and water quality impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on hydrology and water quality (Impact HWQ-1, Impact HWQ-2, Impact HWQ-3, Impact HWQ-4, and Impact HWQ-5) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to hydrology and water quality.

2.4.10 Land Use and Planning

The Recirculated Draft EIR assessed potential impacts on land use and planning in Section 3.10 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to land use and planning if it would:

- Impact LUP-1: Physically divide an established community.
- Impact LUP- 2: Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

2.4.10.1 Impact LUP-1 (Established Community)

2.4.10.1.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. Construction would vary in that the length of the aerial segment and the at-grade segment would change. As evaluated in the Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would physically divide an established community. With the Guideway Refinement, the aerial to at-grade guideway transition segment would be located between Vail Avenue and Maple Avenue; the location of the MSE wall to support the transition would be east of Vail Avenue. This transition segment would be positioned along the median of the public road, ensuring that the existing surrounding land uses, pedestrian crossings, or vehicle crossings remain undisturbed. Surrounding land uses immediately adjacent to the transition segment would continue to have access to the surrounding roadway, bicycle, and sidewalk network, and would continue to be accessible to users; therefore, this would not represent a division to an existing established community and would result in a less than significant impact. Construction activities with the Guideway Refinement and their associated impacts would be practically identical to the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. As evaluated in the Recirculated Draft EIR, construction would not physically divide an established community and would result in a less than significant impact. The Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant for both operation and construction.

2.4.10.1.2 Crossover Refinements

The Atlantic/Whittier Station crossover would be located along an underground guideway segment and require a partial take of a commercial property to accommodate an emergency egress. The partial take required for the Atlantic/Whittier Station crossover would only introduce an emergency egress component; the introduction of this component would not represent a physical divide to an established community.

The Greenwood crossovers would require partial property takes of several properties. The partial property takes required by the Greenwood crossovers would not substantially change the degree to which the light rail line represents a barrier or physical divide; the light rail line guideway would remain at-grade and present with a marginally increased guideway footprint compared to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The additional partial property takes would occur along the ROW frontage and would not change the footprint to such a degree as to result in a divide to a physically established community as compared with the base Alternatives 1 and 3.

The remaining two of the four Crossover Refinements – the Maravilla crossover and Lambert crossover – would be located slightly outside the guideway route that was evaluated under Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Maravilla crossover would be located within the existing Metro E Line guideway footprint slightly west of the East L.A. Civic Center Station, and the Lambert crossover would be located immediately east of the proposed Lambert station. Both Crossover Refinements were located within the Recirculated Draft EIR DSA.

The Maravilla crossover would not require any property acquisition and would be located at-grade within the existing Metro E Line guideway. Metro E Line is an active light rail transit corridor; the introduction of crossovers within the existing light rail track would not represent a new divide in an established community.

The Lambert crossover would require the full acquisition of commercial property. The full property takes would not substantially change the degree to which the light rail line represents a barrier or physical divide. The placement and design of the Lambert crossover ensure minimal disruption to the existing community and would not alter the community's spatial structure.

Therefore, as described above, the Crossover Refinements would not represent a physical divide to an established community and the impact would be less than significant. The Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant for both operation and construction.

2.4.10.2 Impact LUP-2 (Plan, Policy, or Regulation Conflicts)

2.4.10.2.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would result in a conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. With the Guideway Refinement, the aerial to at-grade guideway transition segment would be located between Vail Avenue and Maple Avenue; this transition segment would not introduce a new conflict with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Construction activities with the Guideway Refinement and their associated impacts would be

practically identical to the Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant for both operation and construction.

2.4.10.2.2 Crossover Refinements

The Maravilla crossover would be located within the existing Metro E Line guideway footprint slightly west of the East L.A. Civic Center Station. The Maravilla crossover would adhere to the land use and zoning designation for this area, which permits transportation infrastructure within the public right of way. The applicable goals and policies of the Los Angeles County General Plan, identified in Section 3.10 of the Recirculated Draft EIR, emphasize efficient transportation networks and efficient use of land and infrastructure. The Maravilla crossover contributes to these goals by enhancing connectivity and reducing congestion, thus aligning with the applicable goals and polices of the General Plan. Therefore, the Maravilla crossover is not expected to conflict with any land use plan, policy, or regulation.

The Atlantic/Whittier Station crossover would be located along an underground guideway segment and would adhere to the land use and zoning designation for the area, ensuring that it would not infringe on local ordinances and plans, including the East Los Angeles Community Plan, identified in Section 3.10 of the Recirculated Draft EIR. Therefore, the Atlantic/Whittier Station crossover is not expected to conflict with any land use plan, policy, or regulation.

The Greenwood crossovers would marginally increase the light rail line guideway compared to the base Alternatives 1 and 3. The goals of the Montebello General Plan emphasize facilitating continuous movement and alleviating congestion. The Greenwood crossovers would contribute to this goal by helping the light rail line accomplish enhanced connectivity and operation. Therefore, the Greenwood crossovers are not expected to conflict with any land use plan, policy, or regulation.

The Lambert crossover would be located immediately east of the proposed Lambert station on a fully acquired commercial property. The Lambert crossover would be consistent with land use goals and policies of the Whittier General Plan, identified in Section 3.10 of the Recirculated Draft EIR, which promotes the expansion of transit in the city to connect residents to jobs and services and reduce congestion. The Lambert crossover would contribute to this goal by helping the light rail line accomplish enhanced connectivity and operation. Therefore, Lambert crossover is not expected to conflict with any land use plan, policy, or regulation.

As discussed above, the Crossover Refinements would not conflict with any land use plan, policy, or regulation and the impacts are less than significant. Therefore, the Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant for both operation and construction.

2.4.10.3 Land Use Conclusion

As described above, the Design Refinements would not result in any material difference in land use and planning impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on land use and planning (Impact LUP-1 and Impact LUP-2) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to land use and planning.

2.4.11 Noise and Vibration

The Recirculated Draft EIR assessed potential impacts on noise and vibration in Section 3.11 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to noise and vibration if it would:

- Impact NOI-1: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Impact NOI-2: Generation of excessive ground-borne vibration or ground-borne noise levels.

2.4.11.1 Impact NOI-1 (Ambient Noise)

2.4.11.1.1 Guideway Refinement

The Guideway Refinement would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As with the base Alternatives 1 and 3, the Guideway Refinement is in a commercial and industrial area and there are no sensitive receptors within the noise screening distance. Therefore, as described in the Recirculated Draft EIR, there would be no operational noise level exceedances predicted above the FTA severe impact criteria at sensitive receptors and no adverse effect would occur for the Guideway Refinement. The Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant for operations.

Construction equipment required to construct the Guideway Refinement would be the same as required for the Alternatives 1 and 3. As described in the Recirculated Draft EIR, and provided in the Final EIR, MM NOI-1 through MM NOI-11 would be implemented to reduce potential noise impacts. Thus, noise levels from this work would not exceed the criteria at noise sensitive receptors. The Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant with mitigation for construction.

2.4.11.1.2 Crossover Refinements

Maravilla Crossover

The proposed Maravilla crossover connects the east and westbound tracks and is located to the center 3rd Street. The crossover has multifamily residential approximately 60 feet to the north and a place of worship 42 feet to the south. Other uses in the area include commercial premises to both the north and south, the closest being 48 feet away from the crossover. The Griffith STEAM Magnet Middle School lies 290 feet to the southeast and is screened from the crossover. The addition of the Maravilla crossover would not materially change the noise profile at receptors in this area given the distance from which they are located from the crossover. Analysis using the methodology described in the Recirculated Draft EIR shows that operational noise would not exceed 66 decibels (dB) average day-night noise level (Ldn), and thus, no noise level exceedances are predicted above the FTA severe impact criteria at sensitive receptors. Therefore, no adverse noise impacts would occur. The Recirculated Draft EIR evaluation of noise impacts would not change. The impact would remain less than significant for operations.

Construction required to construct the Maravilla crossover would occur along a section of the existing light rail guideway that is currently operational. As with other residential receptors along the alignment and as evaluated in the Recirculated Draft EIR, construction of the Maravilla crossover would have a significant noise impact on multifamily residences adjacent to the tracks. However, as with the other significant impacts on other residential receptors identified in the Recirculated Draft EIR, implementation of MM NOI-1 through MM NOI-11 and compliance with project measures would reduce potential noise impacts. Thus, noise levels from this work would not exceed the criteria at noise sensitive receptors. The Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant with mitigation for construction.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover is adjacent to commercial areas and located along the existing underground light rail line guideway. Based on the surrounding commercial environment and the existing noise environment with the light rail present, the addition of the guideway would not materially change the existing noise profile. There would be no operational noise level exceedances predicted above the FTA severe impact criteria at sensitive receptors. The Recirculated Draft EIR evaluation of noise impacts would not change. The impact would remain less than significant for operations.

Construction equipment required to construct the Atlantic/Whittier Station crossover would be the same as required for Alternatives 1 and 3. As described in the Recirculated Draft EIR, and provided in the Final EIR, MM NOI-1 through MM NOI-11 would be implemented to reduce noise impacts. Thus, noise levels from this work would not exceed the criteria at noise sensitive receptors. The Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant with mitigation for construction.

Greenwood Crossovers

The Greenwood crossovers would include two crossovers: a new at-grade crossover just west of Greenwood station and a relocated at-grade crossover east of Greenwood station and west of the crossover location analyzed in the Recirculated Draft EIR. The western Greenwood crossover is adjacent to light industrial and commercial and there are no sensitive receptors present in that area; therefore, for the western crossover there are no operational noise level exceedances predicted above the FTA severe impact criteria at sensitive receptors.

The crossover east of Greenwood station is approximately 80 feet from the William and Florence Kelly House, at 860 E Washington Boulevard, a single family residence. The William and Florence Kelly House is also a historic resource; a discussion of the crossovers in a historic context may be found in **Section 2.4.4**. Another historic use, the South Montebello Irrigation District, is present in the vicinity; however, it is a commercial use and the FTA does not consider commercial properties (historic or not) to be sensitive to transit noise. Other properties in the area are commercial. Analysis using the methodology described in the Recirculated Draft EIR shows that operational noise would not exceed 62 dB Ldn and therefore, the second crossover would not introduce operational noise that would materially change the noise profile as evaluated in the Recirculated Draft EIR. Further, the William and Florence Kelly House is sufficiently far from the crossover location such that operational noise would not substantially change. No noise level exceedances are predicted above the FTA severe impact criteria at sensitive receptors and thus, no adverse noise impacts would occur. The Recirculated Draft EIR evaluation of noise impacts would not change. The impact would remain less than significant for operations.

Construction equipment required to construct the Greenwood crossovers would be the same as required for the Montebello At-Grade Option. As described in the Recirculated Draft EIR, and provided in the Final EIR, MM NOI-1 through MM NOI-11 would be implemented to reduce noise impacts. Thus, noise levels from this work would not exceed the criteria at noise sensitive receptors. The Recirculated Draft EIR evaluation of noise impacts would not change. The impact would remain less than significant with mitigation for construction.

Lambert Crossover

The Lambert Crossover would be a new at-grade crossover and tail tracks located south of the proposed Lambert station. There are single family residences adjacent to the tracks to the west, the closest being approximately 120 feet to the crossover, other uses in the area are commercial. Analysis using the methodology described in the Recirculated Draft EIR shows that operational noise would not exceed 59 dB Ldn and no noise level exceedances are predicted above the FTA severe impact criteria at sensitive receptors; thus, no adverse noise impacts would occur. The Recirculated Draft EIR evaluation of noise impacts would not change. The impact would remain less than significant for operations.

Construction equipment required to construct the Lambert crossover would be materially identical to that required for the rest of the guideway. As with other residential receptors along the alignment and as evaluated in the Recirculated Draft EIR, without mitigation, construction of the Lambert crossover would have a significant noise impact on residences adjacent to the tracks. However, as with the other significant impacts on other residential receptors identified in the Recirculated Draft EIR, implementation of MM NOI-1 through MM NOI-11 and compliance with project measures would reduce potential noise impacts. Thus, noise levels from this work will not exceed the criteria at noise sensitive receptors. The Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant with mitigation for construction.

2.4.11.2 Impact NOI-2 (Ground-Borne Vibration or Ground-Borne Noise)

2.4.11.2.1 Guideway Refinement

The Guideway Refinement would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As with the base Alternatives 1 and 3, the Guideway Refinement is in a commercial and industrial area and there are no sensitive receptors within the vibration screening distance. Therefore, there would be no new operational vibration impacts as compared to the impacts as evaluated in the Recirculated Draft EIR. As described in the Recirculated Draft EIR and provided in the Final EIR, MM NOI-12 and MM NOI-13, would be implemented to reduce operational vibration impacts from train passbys (e.g., when a train passes) to less than significant. The Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant with mitigation for operations.

Construction equipment required to construct the Guideway Refinement would be the same as required for Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. As described in the Recirculated Draft EIR and provided in the Final EIR, implementation of MM NOI-2, MM NOI-4, MM NOI-5, MM NOI-7, MM NOI-8, MM NOI-9, MM NOI-14, and MM NOI-15 would reduce construction vibration impacts to less than significant. The Recirculated Draft EIR evaluation of impacts would not change. The impact would remain less than significant with mitigation for construction.

2.4.11.2.2 Crossover Refinements

Maravilla Crossover

The proposed Maravilla crossover connects the east and westbound tracks and is located to the center 3rd Street. The crossover has multifamily residential approximately 60 feet to the north and a place of worship 42 feet to the south. Other uses in the area include commercial premises to the north and south, the closest being 48 feet away from the crossover. The Griffith STEAM Magnet Middle School lies 290 feet to the southeast.

Vibration levels are predicted to exceed the FTA frequent event criterion of 72 VdB at the multifamily residence at 4711 3rd Street. This impact is due to the proximity of the residence to the proposed crossover. No other sensitive receptors would be impacted. As described in the Recirculated Draft EIR and provided in the Final EIR, MM NOI-12 and MM NOI-13, would be implemented to reduce operational vibration impacts from train passbys on sensitive uses to less than significant. The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant with mitigation for operations and construction.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover is adjacent to commercial areas. Therefore, no vibration exceedances are predicted on sensitive receptors from operation or construction of the Atlantic/Whittier Station crossover. The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant with mitigation for operations and construction.

Greenwood Crossovers

The Greenwood crossovers would include two crossovers: a new at-grade crossover just west of Greenwood station and a relocated at-grade crossover east of Greenwood station and west of the crossover location analyzed in the Recirculated Draft EIR. The Greenwood crossover west of the Greenwood station is adjacent to light industrial and commercial uses. Therefore, there would be no vibration exceedances predicted above the FTA severe impact criteria at sensitive receptors for operation and construction of this crossover.

The crossover east of Greenwood station is approximately 80 feet from the William and Florence Kelly House (860 Washington Boulevard), a single family residence. The William and Florence Kelly House is also a historic resource; a discussion of the crossovers in a historic context may be found in **Section 2.4.4**. Another historic use, the South Montebello Irrigation District, is present in the vicinity; however, it is a commercial use and the FTA does not consider commercial properties (historic or not) to be sensitive to transit vibration. Other properties in the area are commercial. Analysis using the methodology described in the Recirculated Draft EIR shows that vibration would not exceed 69 VdB at the William and Florence Kelly House, which is below the FTA severe impact criteria. Therefore, there would be no vibration exceedances at this or any other sensitive receptors and no adverse noise impacts would occur.

The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant with mitigation for operations and construction.

Lambert Crossover

The Lambert crossover would be a new at-grade crossover and tail tracks located south of the proposed Lambert station. There are single family residences adjacent to the tracks to the west, the closest being approximately 120 feet to the crossover. Other uses in the area are commercial. Analysis using the methodology described in the Recirculated Draft EIR shows that vibration would not exceed 64 VdB at the nearest residences. Therefore, no vibration exceedances are predicted at any residence or other sensitive receptors and no adverse noise impacts would occur.

The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant with mitigation for operations and construction.

2.4.11.3 Noise and Vibration Conclusion

As described above, the Design Refinements would not result in any material difference in noise and vibration impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts related to noise and vibration (Impact NOI-1 and Impact NOI-2) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to noise and vibration.

2.4.12 Population and Housing

The Recirculated Draft EIR assessed potential impacts on population and housing in Section 3.13 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to population and housing if it would:

- Impact PPH-1: Induce substantial unplanned population growth in an area, either directly (for example, by proposing new housing and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Impact PPH-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

2.4.12.1 Impact PPH-1 (Unplanned Population Growth)

2.4.12.1.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would induce substantial unplanned population growth in an area, either directly (for example, by proposing new housing and businesses) or indirectly (for example, through extension of roads or other infrastructure). The Guideway Refinement is a variation in the guideway configuration and would not be a direct or indirect catalyst for population growth. The Guideway Refinement does not involve the construction of new housing or commercial establishments that could directly attract an influx of people. Construction activities for the Guideway Refinement and the associated environmental impacts would be practically identical to those of the base Alternatives 1 and 3. As evaluated in the Recirculated Draft EIR, construction would not result in a substantial unplanned

population growth. Construction of the Guideway Refinement would not affect population growth in a materially different way than the base Alternatives 1 and 3. Therefore, the Recirculated Draft EIR evaluation impacts would not change. The impact determination would remain less than significant for both operation and construction.

2.4.12.1.2 Crossover Refinements

Maravilla Crossover

With the Crossover Refinements, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project operations. As evaluated in the Recirculated Draft EIR, operation of Alternatives 1 and 3 would not directly induce population growth; indirectly, operation would be not anticipated to change existing growth and development patterns and any housing and business development growth would be contingent upon local city zoning regulations and approvals, which would also consider a development's consistency with local general plans and transit oriented development policies.

The Maravilla crossover is situated within the existing Metro E Line guideway and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR and would not induce substantial unplanned population growth in the area. Consistent with the operational analysis in the Recirculated Draft EIR, the crossover does not involve the creation of new housing or business establishments, nor does it involve the extension of roads or other infrastructure that could potentially attract population influx. The Maravilla crossover is an enhancement to the current rail transit system and it would not alter the existing land use or demographic patterns. Construction activities for the crossover and the associated environmental impacts would be practically identical to those of Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Construction of the Maravilla crossover would not affect population growth in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Maravilla crossover would not induce substantial unplanned population growth in an area, either directly or indirectly. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for both operation and construction.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover is located along the underground guideway segment of the proposed project and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR and would not induce substantial unplanned population growth in the area. Consistent with the operational analysis in the Recirculated Draft EIR, the crossover does not propose the construction of new housing or businesses, which are direct factors contributing to population growth. The Atlantic/Whittier Station crossover would not involve the extension of roads or other infrastructure that could indirectly lead to population growth. Construction activities for the crossover and the associated environmental impacts would be practically identical to those of the base Alternatives 1 and 3. Construction of the Atlantic/Whittier crossover would not affect population growth in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Atlantic/Whittier Station crossover would not induce substantial unplanned population growth in an area, either directly or indirectly. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for both operation and construction.

Greenwood Crossovers

The Greenwood crossovers are located along the proposed guideway and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR. Consistent with the operational analysis in the Recirculated Draft EIR, the Greenwood crossovers are not expected to induce substantial unplanned population growth in the area because they would not involve the creation of new housing or business establishments. The rail crossovers would be located along an existing roadway, utilizing public right of way, and would not necessitate the extension of roads or other infrastructure. Construction activities for the crossovers and the associated environmental impacts would be practically identical to those of the base Alternatives 1 and 3. Construction of the Greenwood crossovers would not affect population growth in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Greenwood crossovers would not induce substantial unplanned population growth in an area, either directly or indirectly. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for both operation and construction.

Lambert Crossover

The Lambert crossover is located immediately east of the proposed Lambert station and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR. Consistent with the operational analysis in the Recirculated Draft EIR, the crossover would not induce substantial unplanned population growth in the area. The rail crossover and tail tracks are designed to improve transit efficiency and would not include the development of new housing or businesses. The construction of the rail crossover would require acquisition of commercial property, but no substantial unplanned population growth would be expected as a consequence. Furthermore, the Lambert crossover would not involve the extension of roads or other infrastructure that could indirectly lead to population growth. Construction activities for the crossover and the associated environmental impacts would be practically identical to those of the base Alternatives 1 and 3 and Alternatives 1 and 3 with the Montebello At-Grade Option. Construction of the Lambert crossover would not affect population growth in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Lambert crossover would not induce substantial unplanned population growth in an area, either directly or indirectly. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for both operation and construction.

2.4.12.2 Impact PPH-2 (Displacement)

2.4.12.2.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would displace substantial numbers of existing people or housing. Construction activities with the Guideway Refinement and their associated impacts would be practically identical to the base Alternatives 1 and 3. As evaluated in the Recirculated Draft EIR, construction would not result in a substantial displacement of people or housing. Construction of the Guideway Refinement would not displace people or affect housing in a materially different way than the base Alternatives 1 and 3. Therefore, the Recirculated Draft EIR evaluation of whether the Project would result in substantial

displacement of people or housing would not change. There would be no impact under operation or construction.

2.4.12.2.2 Crossover Refinements

Maravilla Crossover

With the Crossover Refinements, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project operations. As evaluated in the Recirculated Draft EIR, operation of Alternatives 1 and 3 would not require property acquisition displacing people or housing.

The Maravilla crossover is situated within the existing Metro E Line guideway and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR and would not necessitate displacement of current residents or housing. As evaluated in the Recirculated Draft EIR, operation of the proposed project would not result in acquisition of residential structures or housing displacement. Construction activities for the crossover and the associated impacts would be practically identical to the base Alternatives 1 and 3. Construction of the Maravilla crossover would not affect resident or housing displacement in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Maravilla crossover would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. The Recirculated Draft EIR evaluation of whether the Project would result in substantial displacement of people or housing would not change. There would be no impact under operation or construction.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover is located along the underground guideway segment of the proposed project and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR and would not displace substantial numbers of existing people or housing. As evaluated in the Recirculated Draft EIR, operation of the proposed project would not result in acquisition of residential structures or housing displacement. The emergency egress component required for the crossover would not result in resident or housing displacement. Construction activities for the crossover and the associated impacts would be practically identical to the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Construction of the Atlantic/Whittier Station crossover would not affect resident or housing displacement in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Atlantic/Whittier Station crossover would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. The Recirculated Draft EIR evaluation of whether the Project would result in substantial displacement of people or housing would not change. There would be no impact under operation or construction.

Greenwood Crossovers

The Greenwood crossovers are located along the proposed guideway and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR. Consistent with the operational analysis in the Recirculated Draft EIR, the Greenwood crossovers would not result in the displacement of a substantial number of people or housing. As evaluated in the Recirculated Draft EIR, operation of the proposed project would

not result in acquisition of residential structures or housing displacement. The partial property acquisition required for the crossovers would include acquisition of approximately five feet in depth of landscaped frontage along the ROW and would not entail acquisition of the existing residence. Construction activities for the crossovers and the associated impacts would be similar to the base Alternatives 1 and 3. Construction of the Greenwood crossovers would not affect resident or housing displacement in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Greenwood crossovers would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. The Recirculated Draft EIR evaluation of whether the Project would result in substantial displacement of people or housing would not change. There would be no impact under operation or construction.

Lambert Crossover

The Lambert crossover is located immediately east of the proposed Lambert station and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR. Consistent with the operational analysis in the Recirculated Draft EIR, the crossover would not result in the displacement of a substantial number of people or housing. The Lambert crossover would require acquisition of commercial property. This commercial development does not contain residential units, thus no direct displacement of housing or residents would occur. As evaluated in the Recirculated Draft EIR, operation of the proposed project would not result in acquisition of residential structures or housing displacement. Construction activities for the crossover and the associated impacts would be practically identical to the base Alternatives 1 and 3. Construction of the Maravilla crossover would not affect resident or housing displacement in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Lambert crossover would not displace a substantial number of people or necessitate the construction of replacement housing. The Recirculated Draft EIR evaluation of whether the Project would result in substantial displacement of people or housing would not change. There would be no impact under operation or construction.

2.4.12.3 Population and Housing Conclusion

As described above, the Design Refinements would not result in any material difference in population and housing impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on population and housing (Impact PPH-1 and Impact PPH-2) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to population and housing.

2.4.13 Public Services and Recreation

The Recirculated Draft EIR assessed potential impacts on public services and recreation in Section 3.13 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to public services and recreation if it would:

- Impact PSR-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities (the construction of which could cause significant environmental impacts), in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Fire protection
    - Police protection
    - Schools
    - Parks
    - Other public facilities
- Impact PSR-2: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Impact PSR-3: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

2.4.13.1 Impact PSR-1 (Public Services)

2.4.13.1.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. Operation of the Guideway Refinement would not affect public services differently than the base Alternative 1, base Alternative 3, or the Montebello At-Grade Option. As evaluated in the Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities (the construction of which could cause significant environmental impacts). As evaluated in the Recirculated Draft EIR, at-grade crossings would not cause a significant delay to fire and police protection vehicles and any delay would be brief due to the short length of the LRT trainsets and the short time required for LRT vehicles to enter and exit the crossings. The contractor shall coordinate with fire and police protection officials, consistent with PM PSR-1, provided in Chapter 5 of the Final EIR. Fire and police protection response times are anticipated to remain at acceptable levels and would not require new or physically altered fire or police protection facilities under the operation of the Guideway Refinement. Construction activities for the Guideway Refinement and the associated impacts would be practically identical to the base Alternatives 1 and 3. As evaluated in the Recirculated Draft EIR, construction would not result in a substantial unplanned population growth. Construction of the Guideway Refinement would not affect public services in a materially different way than the base Alternatives 1 and 3. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for both operation and construction.

2.4.13.1.2 Crossover Refinements

Maravilla Crossover

The Maravilla crossover is situated within the existing Metro E Line guideway and would be a change to the existing trackwork; this change would not represent a substantial departure from the operational

analysis in the Recirculated Draft EIR and would not affect public services. Consistent with the operational analysis in the Recirculated Draft EIR, the crossover would not directly affect public service facilities or affect fire and police protection services. Because the crossover would not affect any intersections, fire and police protection services would not be adversely affected by the crossover's location. As evaluated in the Recirculated Draft EIR, track work would be designed in accordance with Metro Rail Design Criteria, including the Fire/Life Safety Criteria, to ensure it does not obstruct emergency vehicle routes or response times. Schools in the vicinity would remain unaffected as the crossover would not alter pedestrian or vehicular traffic patterns. Parks and other public facilities would continue to be accessible and their use would not be hindered by the rail crossover. Construction activities for the crossover and associated impacts would be practically identical to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Construction of the Maravilla crossover would not affect public services in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for both operation and construction.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover is located along the underground guideway segment of the proposed project and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR and would not result in substantial adverse physical impacts on public services. Consistent with the operational analysis in the Recirculated Draft EIR, the crossover would not interfere with surface-level facilities and services, such as fire services, police services, schools and parks, and would not affect response times for fire and police protection services. The Atlantic/Whittier Station crossover includes an emergency egress component to ensure safety and accessibility. Construction activities for the crossover and associated impacts would be practically identical to Alternatives 1 and 3. Construction of the Atlantic/Whittier crossover would not affect public services in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Atlantic/Whittier Station crossover would not physically alter public services and facilities or adversely impact their performance objectives. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for both operation and construction.

Greenwood Crossovers

The Greenwood crossovers are located along the proposed guideway and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR. Consistent with the operational analysis in the Recirculated Draft EIR, the Greenwood crossovers would not directly affect public service facilities or affect fire and police protection services. The crossovers would be designed in accordance with Metro Rail Design Criteria, including the Fire/Life Safety Criteria to ensure it does not obstruct emergency vehicle routes or affect response times. Construction activities for the crossover and associated impacts would be practically identical to Alternatives 1 and 3. Construction of the Greenwood crossovers would not public services in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Greenwood crossovers would not physically alter public services and facilities or adversely impact their performance objectives. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for both operation and construction.

Lambert Crossover

The Lambert crossover is located immediately southeast of the proposed Lambert station and would be a change to the proposed trackwork; this change would not represent a substantial departure from the operational analysis in the Recirculated Draft EIR. Consistent with the operational analysis in the Recirculated Draft EIR, the Lambert crossover would not directly affect facilities or affect fire and police protection services. The Lambert crossover would not be located in the existing ROW and thus would not cross any intersections or otherwise interfere with emergency service response times. Thus, fire and police protection service response times and performance objectives would remain unaffected. Construction activities for the crossover and associated impacts would be practically identical to Alternatives 1 and 3. Construction of the Lambert crossover would not affect public services in a materially different way than the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Lambert crossover would not induce substantial unplanned population growth in an area, either directly or indirectly. Therefore, the Lambert crossover would not physically alter public services and facilities or adversely impact their performance objectives. The Recirculated Draft EIR evaluation of impacts would not change. The impact determination would remain less than significant for both operation and construction.

2.4.13.2 Impact PSR-2 (Increased Recreation)

2.4.13.2.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. It would not affect parks or recreational resources any differently than Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. As evaluated in the Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would increase the use of existing neighborhood and regional parks or other recreational facilities to a degree that would cause substantial physical deterioration. Construction of the Project, including the Guideway Refinement, would not require the physical acquisition, displacement, or relocation of parks or other recreational facilities. Further, construction activities would result in temporary nuisances associated with noise, dust, odors, and traffic delays, but access to facilities would be maintained during construction, and no increased use of facilities is anticipated. Construction activities with the Guideway Refinement and their associated impacts would be practically identical to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Recirculated Draft EIR evaluation of impacts related to increased recreation would not change. The impact determination would remain less than significant for both operation and construction.

2.4.13.2.2 Crossover Refinements

The Crossover Refinements would reconfigure existing or proposed trackwork and would not affect parks or recreational facilities any differently than Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. They are not located within or immediately adjacent to existing neighborhood parks or recreational facilities, and would thus not directly affect their use. As evaluated in the Recirculated Draft EIR, the Project would not increase the use of existing neighborhood and regional parks or other recreational facilities to a degree that would cause substantial physical deterioration. Construction of the Project, including the crossovers, would not require the physical acquisition, displacement, or relocation of parks or other recreational facilities. Further, construction activities would result in temporary nuisances associated with noise, dust, odors, and traffic delays, but access to facilities would be maintained during construction, and no increased use of facilities is anticipated. Construction activities for the Crossover Refinements and the associated impacts would be practically

identical to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Crossover Refinements would not increase the use of existing neighborhood and regional parks or other recreational facilities. The Recirculated Draft EIR evaluation of impacts related to increased recreation would not change. The impact determination would remain less than significant for both operation and construction.

2.4.13.3 Impact PSR-3 (New Recreation Facilities)

2.4.13.3.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. It would not affect recreational facilities any differently than Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. No new recreational facilities, or expansion of existing recreational facilities, would be included as part of the operation and construction of the Guideway Refinement. Therefore, there would be no physical effect on the environment from the construction or expansion of recreational facilities and no impact would occur. Construction activities for the Guideway Refinement and the associated impacts would be practically identical to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Recirculated Draft EIR evaluation of impacts would not change. There would be no impact under operation or construction.

2.4.13.3.2 Crossover Refinements

The Crossover Refinements would reconfigure existing or proposed trackwork and would not affect recreational facilities any differently than Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. No new recreational facilities, or expansion of existing recreational facilities, would be included as part of the operation and construction of the crossovers. Therefore, there would be no physical effect on the environment from the construction or expansion of recreational facilities and no impact would occur. Construction activities for the crossovers and the associated impacts would be practically identical to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Recirculated Draft EIR evaluation of impacts would not change. There would be no impact under operation or construction.

2.4.13.4 Public Services and Recreation Conclusion

As described above, the Design Refinements would not result in any material difference in public services and recreation impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on public services and recreation (Impact PSR-1, Impact PSR-2, and Impact PSR-3) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to public services and recreation.

2.4.14 Transportation and Traffic

The Recirculated Draft EIR assessed potential impacts on transportation and traffic in Section 3.14 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to transportation and traffic if it would:

- Impact TRA-1: Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- Impact TRA-2: Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
- Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Impact TRA-4: Result in inadequate emergency access.

2.4.14.1 Impact TRA-1 (Conflict with Programs, Plans, and Policies)

2.4.14.1.1 Guideway Refinement

As evaluated in the Recirculated Draft EIR, operation of the Project would not conflict with adopted regional or local policies or plans related to roadway circulation or transit and would support several regional and local plans and policies. The Project would also enhance transit connectivity between the stations and the surrounding areas and thereby increase ridership countywide when compared to the No Project Alternative.

With the Guideway Refinement, the guideway would follow the same route as the base Alternatives 1 and 3 and the Montebello At-Grade Option and would not result in any differences in the project footprint or operations. Although the track alignment would transition from aerial to at-grade west of Greenwood station and the Greenwood station would be at-grade with the Guideway Refinement, operational impacts would remain the same Alternatives 1 and 3 evaluated in the Recirculated Draft EIR as no additional travel lanes would be required for placement of the at-grade guideway nor MSE wall just east of Vail Avenue. Therefore, the Guideway Refinement would not conflict with adopted regional or local policies or plans related to roadway circulation. Furthermore, there are no existing or planned bicycle facilities or planned pedestrian facilities in the location of the Guideway Refinement. Therefore, the Guideway Refinement would not conflict with adopted regional or local policies or plans related to bicycle or pedestrian circulation. The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant for operations.

For the Guideway Refinement, construction would vary in that the length of the aerial segment and the at-grade segment would change. As evaluated in the Recirculated Draft EIR, construction of the Project would result in significant impacts related to transit circulation, traffic circulation, bicycle circulation, and pedestrian circulation. Implementation of MM TRA-1, as discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, requires a Traffic Management Plan that specifies measures to minimize disruption during construction. Construction impacts in the vicinity of the Guideway Refinements would be the same as stated in the Recirculated Draft EIR. Impacts would be less than significant with mitigation for construction.

2.4.14.1.2 Crossover Refinements

Maravilla Crossover

The Maravilla crossover is proposed by Metro to improve operational needs of the LRT; therefore, once operational, the crossover would support regional and local plans and policies and would not

conflict with adopted regional or local policies or plans related to roadway circulation or transit at this location. The Project would also enhance transit connectivity between the stations and the surrounding areas and thereby increase ridership countywide when compared to the No Project Alternative. Therefore, operation of the Maravilla crossover would result in a less than significant impact related to transportation and traffic circulation. The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant for operations.

Construction of the crossover would necessitate a minor shift of the existing track and roadway resurfacing in the vicinity of the changes to the track. All work occur would within the existing ROW. Construction would require temporary lane closures and track closures. Existing Metro E line service would temporarily terminate at Maravilla Station during construction. Metro would provide connecting bus service between Maravilla Station to East L.A. Civic Center Station and the existing Atlantic Station during this period which is expected to last 6 to 12 months. Following construction, the roadway surface and track would be restored to existing conditions.

Although the Maravilla crossover is located just outside of the proposed alignment evaluated in the Recirculated Draft EIR, the Maravilla crossover would utilize the same construction methods as analyzed in the Recirculated EIR along the other parts of the alignment. As evaluated in the Recirculated Draft EIR, construction of the Project would result in significant impacts related to transit circulation, traffic circulation, bicycle circulation, and pedestrian circulation. MM TRA-1, as provided in Chapter 5 of the Final EIR, would be implemented. This mitigation measures requires the preparation of a Traffic Management Plan that specifies measures to minimize disruption during construction. Construction impacts would be practically identical to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant with mitigation for construction.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover would be a new underground crossover, resulting in a larger footprint as compared to the underground Atlantic/Whittier station evaluated in the Recirculated Draft EIR. As this crossover would be underground, it would not have the potential to conflict with any transportation or traffic during operations nor conflict with any adopted plan at this location. The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant for operations.

Although the station would have a larger footprint, construction would occur entirely underground and would utilize the same construction methods as analyzed in the Recirculated Draft EIR. As evaluated in the Recirculated Draft EIR, construction of the Project would result in significant impacts related to transit circulation, traffic circulation, bicycle circulation, and pedestrian circulation. MM TRA-1, discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, would be implemented. This mitigation measure requires the preparation of a Traffic Management Plan that specifies measures to minimize disruption during construction. Construction impacts would be practically identical to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant with mitigation for construction.

Greenwood Crossovers

The Greenwood crossovers would include two crossovers: a new at-grade crossover just west of Greenwood station and a relocated at-grade crossover east of Greenwood station and west of the crossover analyzed in the Recirculated Draft EIR. For the new crossover just west of Greenwood station and the relocated crossover east of Greenwood station, no additional travel lanes would need to be removed to accommodate the crossover. As evaluated in the Recirculated Draft EIR, operation of the Project would not conflict with adopted regional or local policies or plans related to roadway circulation or transit and would support several regional and local plans and policies. The Project would also enhance transit connectivity between the stations and the surrounding areas and thereby increase ridership countywide when compared to the No Project Alternative. Similarly, there are no existing or planned bicycle facilities nor planned pedestrian facilities that create new conflict in the vicinity of the Greenwood crossovers, and therefore operation of the Greenwood crossovers would not conflict with adopted regional or local policies or plans related to bicycle or pedestrian circulation. The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant for operations.

Construction of the Greenwood crossovers would occur within the public ROW and would utilize the same construction methods as analyzed in the Recirculated EIR. As evaluated in the Recirculated Draft EIR, construction of the Project would result in significant impacts related to transit circulation, traffic circulation, bicycle circulation, and pedestrian circulation. MM TRA-1, as described in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, would be implemented. This mitigation measure requires the preparation of a Traffic Management Plan that specifies measures to minimize disruption during construction. Construction impacts would be practically identical to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant with mitigation for construction.

Lambert Crossover

The new Lambert crossover and tail tracks would not be located within the public ROW and would not cross any additional intersections. The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant for operations.

Construction methods for the Lambert crossover would be the same as other crossovers analyzed in the Recirculated EIR. As evaluated in the Recirculated Draft EIR, construction of the Project would result in significant impacts related to transit circulation, traffic circulation, bicycle circulation, and pedestrian circulation. MM TRA-1, discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, would be implemented. This mitigation requires the preparation of a Traffic Management Plan that specifies measures to minimize disruption during construction. Construction impacts would be practically identical to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Recirculated Draft EIR evaluation of impacts on circulation would not change. The impact would remain less than significant with mitigation for construction.

2.4.14.2 Impact TRA-2 (Conflict with CEQA Guidelines)

2.4.14.2.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, operation of the Project would reduce

regional VMT and incorporation of the Guideway Refinement does not alter these modeling projections. Therefore, operation of the Guideway Refinement would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). The Recirculated Draft EIR evaluation of impacts would not change; there would be no impact for operation.

For the Guideway Refinement, construction would vary in that the length of the aerial segment and the at-grade segment would change. Construction would temporarily generate additional VMT related to construction work activities and the transport of excavated materials and construction equipment and supplies, but the additional VMT would terminate upon completion of construction. VMT associated with construction would be the same for the Guideway Refinement as that analyzed in the Recirculated Draft EIR for Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, construction of the Guideway Refinement would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). The Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.14.2.2 Crossover Refinements

As evaluated in the Recirculated Draft EIR, operation of the Project would reduce regional VMT; incorporation of the Crossover Refinements does not alter these modeling projections. Therefore, operation of the Crossover Refinements would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). The Recirculated Draft EIR evaluation of impacts would not change; there would be no impact for operation.

Construction of the Crossover Refinements would temporarily generate additional VMT related to construction work activities and the transport of excavated materials and construction equipment and supplies, but the additional VMT would terminate upon completion of construction. VMT associated with construction would be the same for the crossovers as that analyzed in the Recirculated Draft EIR for Alternatives 1 and 3. Therefore, construction of the Crossover Refinements would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). The Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.14.3 Impact TRA-3 (Design Hazards or Incompatible Uses)

2.4.14.3.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, the aerial and at-grade portions of the alignment would use the existing street alignment and ROW. The Project would not substantially increase hazards due to a geometric design feature, as it would be designed, constructed, and operated per applicable State, Metro, and local design criteria and standards, including adherence to design codes and standards such as those required by the California Division of Occupational Safety and Health Administration (Cal/OSHA), California Public Utilities Commission (CPUC), Work Area Traffic Control Handbook (WATCH) Manual, Manual on Uniform Traffic Control Devices (MUTCD), and Metro safety and security programs and standards (i.e., MRDC and Metro Systemwide Station Design Standards Policy). Stations and grade crossings would be designed in accordance with MRDC, including Fire/Life Safety Design Criteria, to ensure safety and minimize potential hazards at all locations, as set forth in PM TRA-1, which is described in the Recirculated Draft EIR and provided in

Chapter 5 of the Final EIR. An initial screening (Milestone 1) analysis according to Metro's Grade Crossing Policy indicates that all proposed grade crossings would fall under the least restrictive category ("At Grade Operation Should Be Feasible"), with the exception of the crossing at the Lambert Road terminal approach, but this location is not in the vicinity of the Guideway Refinement and therefore does not affect the impact determination. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

For the Guideway Refinement, construction would vary in that the length of the aerial segment and the at-grade segment would change. As with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, pedestrians, bicyclists, and motorists would experience temporary safety hazards in the DSA localized during construction around construction activities. This would result from temporary lane closures and the number and proximity of people and vehicles adjacent to the construction activities around station location staging areas and aerial and at-grade guideway segments. The potential for such significant safety impacts would be minimized by compliance with Cal/OSHA, and Metro safety and security programs as set forth in PM TRA-2, described in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR. Safety for pedestrians, bicyclists, and motorists would be maintained during construction in accordance the WATCH Manual or Worksite Traffic Control Plan required under MM TRA-1; methods may include signage, partial lane closures, and construction barriers. Therefore, construction of the Guideway Refinement would result in a less than significant impact. The Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.14.3.2 Crossover Refinements

Maravilla Crossover

The Maravilla crossover would be a new at-grade crossover in the existing Metro E Line trackwork. The Maravilla crossover, would be designed, constructed, and operated per applicable State, Metro, and city design criteria and standards, including design codes and standards such as those required by Cal/OSHA, CPUC, MUTCD, and Metro safety and security programs and standards (e.g., MRDC).

As the Project would be designed, constructed, and operated per applicable State, Metro, and local design criteria and standards, which include design standards related to this potential issue, operation of the crossover would result in a less than significant impact. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

As evaluated in the Recirculated Draft EIR, pedestrians, bicyclists, and motorists would experience temporary safety hazards in the DSA around construction activities. This would result from temporary lane closures and the number and proximity of people and vehicles adjacent to the construction activities around station location staging areas and aerial and at-grade guideway segments, such as the Maravilla crossover. The potential for such significant safety impacts would be minimized by compliance with Cal/OSHA and Metro safety and security programs as set forth in PM TRA-2 (discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR). Safety for pedestrians, bicyclists, and motorists would be maintained during construction in accordance the WATCH Manual or Worksite Traffic Control Plan required under MM TRA-1; methods may include signage, partial lane closures, and construction barriers. Therefore, because of compliance with the programs listed above, construction of the Maravilla crossover would result in a less than significant impact. The Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover would be a new underground crossover resulting in a larger footprint of the underground Atlantic/Whittier station evaluated in the Recirculated EIR. As this crossover would be underground, it would not have the potential to conflict with any transportation or traffic during operations. Further, the station and crossover would be designed, constructed, and operated per applicable State, Metro, and city design criteria and standards including the MRDC, to ensure safety and minimize potential hazards at all locations, as set forth in PM TRA-1, which is described in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

As evaluated in the Recirculated Draft EIR, pedestrians, bicyclists, and motorists would experience temporary safety hazards in the DSA localized during construction around construction activities. This would result from temporary lane closures and the number and proximity of people and vehicles adjacent to the construction activities around station location staging areas and aerial and at-grade guideway segments. The potential for such significant safety impacts would be minimized by compliance with Cal/OSHA and Metro safety and security programs as set forth in PM TRA-2. Safety for pedestrians, bicyclists, and motorists would be maintained during construction in accordance the WATCH Manual or Worksite Traffic Control Plan required under MM TRA-1; methods may include signage, partial lane closures, and construction barriers. Therefore, because of compliance with the programs listed above, construction of the Project, including the Atlantic/Whittier crossover, would result in a less than significant impact.

Therefore, the Atlantic/Whittier Station Crossover would not change the Recirculated Draft EIR TRA-3 impact determination for Alternative 1, Alternative 3, or either Alternative 1 or Alternative 3 with the Montebello At-Grade Design Option; the Recirculated Draft EIR impact determination would remain less than significant with mitigation for both operation and construction.

Greenwood Crossovers

The Project, including the Greenwood crossovers, would be designed, constructed, and operated per applicable State, Metro, and local design criteria and standards, including adherence to design codes and standards such as the Cal/OSHA, CPUC, MUTCD, and Metro safety and security programs and standards (e.g., MRDC). As the Project would be designed, constructed, and operated per applicable State, Metro, and city design criteria and standards which includes design standards related to this potential issue, operation of the crossover would result in a less than significant impact.

As evaluated in the Recirculated Draft EIR, pedestrians, bicyclists, and motorists would experience temporary safety hazards in the DSA around construction activities. This would result from temporary lane closures and the number and proximity of people and vehicles adjacent to the construction activities around station location staging areas and aerial and at-grade guideway segments, such as the Greenwood crossovers. The potential for such significant safety impacts would be minimized by compliance with Cal/OSHA and Metro safety and security programs as set forth in PM TRA-2 (discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR). Safety for pedestrians, bicyclists, and motorists would be maintained during construction in accordance the WATCH Manual or Worksite Traffic Control Plan required under MM TRA-1; methods may include signage, partial lane closures, and construction barriers. Therefore, because of compliance with the programs listed above, construction of the Greenwood crossovers would result in a less than

significant impact. The Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

Lambert Crossover

The new Lambert crossover and tail tracks would not be located within the public ROW and would not cross any additional intersections. Further, the Project, including the Lambert crossover, would be designed, constructed, and operated per applicable State, Metro, and city design criteria and standards, including design codes and standards such as Cal/OSHA, CPUC, MUTCD, and Metro safety and security programs and standards (e.g., MRDC). Because of compliance with the programs listed above, construction of the Lambert crossover would result in a less than significant impact. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

Unlike most of the alignment evaluated in the Recirculated Draft EIR, the Lambert crossover and trail tracks are not located within the ROW, therefore construction has less potential to result in temporary safety hazards to pedestrians, bicyclists, and motorists around construction activities than identified in Recirculated Draft EIR. Regardless, as with the entire Project, construction of the Lambert crossover would comply with Cal/OSHA and Metro safety and security programs as set forth in PM TRA-2 (discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR). Therefore, construction of the Lambert crossover would result in a less than significant impact. The Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.14.4 Impact TRA-4 (Inadequate Emergency Access)

2.4.14.4.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, operation of the Project would potentially increase fire and police protection response times as a result of delays at new grade crossings. However, because the trains would operate in an exclusive right-of-way, they would clear signaled and unsignalized intersections quickly, allowing emergency vehicles to pass. Operation of the Guideway Refinement would be similar to operation of the base Alternative 1 and Alternative 3. However, with the Guideway Refinement, Greenwood station would be at-grade and there would be at-grade crossings at Maple Avenue and Greenwood Avenue, Montebello Boulevard, and, for Alternative 1, Carob Way. The Montebello At-Grade Option analyzed in the Recirculated Draft EIR addressed an at-grade configuration at this location and determined that impacts would be less than significant. This is also consistent with an initial screening (Milestone 1) analysis according to Metro's Grade Crossing Policy that identified that these grade crossings would fall under the least restrictive category ("At Grade Operation Should Be Feasible").

As standard practice and as set forth in PM TRA-1, provided in Chapter 5 of the Final EIR, Metro would coordinate with fire and police protection officials when designing grade crossings to ensure that access for police and fire protection services would be maintained. In addition, all new LRT facilities and crossings would be designed in accordance with the MRDC, including the Fire/Life Safety Criteria, to ensure safety and minimize potential hazards at all locations. Further, compliance with code requirements pertaining to emergency vehicle access and building standards also ensure that response times are maintained at acceptable levels. Operation of the aerial configuration portions,

including the aerial portion of the Guideway Refinement, would not have any material impact to fire and police protection response times since those segments would not affect emergency vehicles traveling on surface streets. Consequently, fire and police protection response times are anticipated to remain at acceptable levels for the Guideway Refinement. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

With the Guideway Refinement, construction would vary in that the length of the aerial segment and the at-grade segment would change. Construction activities would potentially temporarily increase fire and police protection response times as a result of periodic construction-related street closures or detours, but there are no emergency facilities within the vicinity of the Guideway Refinement. Further, standard practices as set forth in PM TRA-2 discussed in the Recirculated Draft EIR and presented in Chapter 5 of the Final EIR, require that lane and/or road closures are scheduled to minimize disruptions and that a Traffic Management Plan, including detour routes, is prepared and approved by authorities having jurisdiction in coordination with local fire and police departments prior to construction. The nearest local first responders would be notified, as appropriate, of traffic control measures in the plan during construction to coordinate emergency response routing. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.14.4.2 Crossover Refinements

Maravilla Crossover

The Maravilla crossover would be a reconfiguration of the existing Metro E Line trackwork. Operation of the crossover would not change the existing Metro E Line operations. Consequently, fire and police protection response times are anticipated to remain at acceptable levels under the operation of the Maravilla crossover. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

Construction activities would potentially temporarily increase fire and police protection response times as a result of periodic construction-related street closures or detours. However, there are no emergency facilities within the vicinity of the Maravilla crossover. Further, standard practices as set forth in PM TRA-2 discussed in the Recirculated Draft EIR and presented in Chapter 5 of the Final EIR, require that lane and/or road closures are scheduled to minimize disruptions and that a Traffic Management Plan, including detour routes, is prepared and approved by authorities having jurisdiction in coordination with local fire and police departments prior to construction. The nearest local first responders would be notified, as appropriate, of traffic control measures in the plan during construction to coordinate emergency response routing. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

Atlantic/Whittier Station Crossover

The Atlantic/Whittier Station crossover would be a new underground crossover resulting in a larger footprint of the underground Atlantic/Whittier station evaluated in the Recirculated EIR. As this crossover would be underground, it would not have the potential to conflict with any transportation or traffic during operations. Therefore, it would not have the potential to increase fire and police protection response times as a result of delays at new grade crossings. Operation of the Atlantic/Whittier Station crossover would be very similar to operation of the base Alternative 1 and

Alternative 3. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

Construction activities would potentially temporarily increase fire and police protection response times as a result of periodic construction-related street closures or detours. However, there are no emergency facilities within the vicinity of the Atlantic/Whittier Station crossover. Further, standard practices as set forth in PM TRA-2 discussed in the Recirculated Draft EIR and presented in Chapter 5 of the Final EIR, require that lane and/or road closures are scheduled to minimize disruptions and that a Traffic Management Plan, including detour routes, is prepared and approved by authorities having jurisdiction in coordination with local fire and police departments prior to construction. The nearest local first responders would be notified, as appropriate, of traffic control measures in the plan during construction to coordinate emergency response routing. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

Greenwood Crossovers

Operation of the Greenwood crossovers would not change the operation of the Project evaluated in the Recirculated Draft EIR. All new LRT facilities would be designed in accordance with the MRDC, including the Fire/Life Safety Criteria, to ensure safety and minimize potential hazards at all locations. Further, compliance with code requirements pertaining to emergency vehicle access and building standards also ensure that response times are maintained at acceptable levels. Consequently, fire and police protection response times are anticipated to remain at acceptable levels under operation of the Greenwood crossovers. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

Construction activities would potentially temporarily increase fire and police protection response times as a result of periodic construction-related street closures or detours. However, there are no emergency facilities within the vicinity of the Greenwood crossovers. Further, standard practices as set forth in PM TRA-2 discussed in the Recirculated Draft EIR and presented in Chapter 5 of the Final EIR, require that lane and/or road closures are scheduled to minimize disruptions and that a Traffic Management Plan, including detour routes, is prepared and approved by authorities having jurisdiction in coordination with local fire and police departments prior to construction. The nearest local first responders would be notified, as appropriate, of traffic control measures in the plan during construction to coordinate emergency response routing. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

Lambert Crossover

The Lambert crossover and tail tracks would be a new at-grade crossover and tail tracks located south of the proposed Lambert station. The new Lambert crossover would not be located within the public ROW; instead, it would be on private property and would not cross any additional intersections. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

Construction activities would potentially temporarily increase fire and police protection response times as a result of periodic construction-related street closures or detours. However, because the Lambert crossover and trail tracks are not located within the ROW, there is less potential for street closures or detours to occur at that location than elsewhere along the proposed alignment. Further, there are no

emergency facilities adjacent to the Lambert crossover and standard practices as set forth in PM TRA-2 discussed in the Recirculated Draft EIR and presented in Chapter 5 of the Final EIR, require that lane and/or road closures are scheduled to minimize disruptions and that a Traffic Management Plan, including detour routes, is prepared and approved by authorities having jurisdiction in coordination with local fire and police departments prior to construction. The nearest local first responders would be notified, as appropriate, of traffic control measures in the plan during construction to coordinate emergency response routing. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.14.5 Transportation and Traffic Conclusion

As described above, the Design Refinements would not result in any material difference in transportation and traffic impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on transportation and traffic (Impact TRA-1, TRA-2, TRA-3, and TRA-4) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to transportation and traffic.

2.4.15 Tribal Cultural Resources

The Recirculated Draft EIR assessed potential impacts on tribal cultural resources in Section 3.15 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to tribal cultural resources (TCR) if it would cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe. Therefore, an alternative would have a significant impact related to TCRs if it would:

- Impact TCR-1: Cause a substantial adverse change in a TCR that is listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in PRC Section 5020.1(k).
- Impact TCR-2: Cause a substantial adverse change in a TCR that is determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

2.4.15.1 Impact TRC-1 (Historical Tribal Cultural Resources)

2.4.15.1.1 Guideway Refinement

Operation and construction of the Crossover Refinements would not affect TCRs differently than the Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. With the Guideway Refinement, the guideway would follow the same route as the Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. As evaluated in the Recirculated Draft EIR, no TCRs were identified within the Area of Direct Impacts (ADI) as a result of the background research, field survey, or tribal consultation. Although unknown, buried resources that

may be eligible for inclusion in the CRHR may exist within the ADI, operation of the Guideway Refinement would not require additional ground-disturbance that could disturb buried resources. Project operations would consist of LRT and would not directly or indirectly affect the integrity or significance of any known or potential resources that are eligible for inclusion in the CRHR or local register that may be TCRs. Therefore, the Recirculated Draft EIR evaluation of impacts on TCRs that are listed or eligible for listing in the CRHR, or in a local register of historical resources, would not change. The impact determination would remain less than significant for operations.

As with construction of the entire alignment evaluated in the Recirculated Draft EIR, excavation for construction of the Guideway Refinement would have the potential to disturb and destroy TCRs that are currently unknown. As identified for Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, if unmitigated, this potential disturbance of TCRs during construction of the Guideway Refinement would result in a significant impact. MM TCR-1, MM TCR-2, and MM TCR-3, discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, would ensure that workers have a clear understanding of TCRs that may be present in the construction area, and that procedures and plans would be in place for monitoring for and safely handling TCRs. With implementation of mitigation, impacts would be less than significant. Therefore, the Recirculated Draft EIR evaluation of impacts on TCRs that are listed or eligible for listing in the CRHR, or in a local register of historical resources, would not change. The impact determination would remain less than significant with mitigation for construction.

2.4.15.1.2 Crossover Refinements

Operation and construction of the Crossover Refinements would not affect TCRs differently than Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Although the Maravilla crossover and Lambert crossover and tail tracks are located just outside of the APE analyzed in the Recirculated Draft EIR, these areas fall within the records search area for the Project. Based on this records search, no TCRs were identified within any of the crossover sites.

Operation of the crossovers would not require additional ground-disturbance that could disturb buried resources. The Recirculated Draft EIR evaluation of impacts on TCRs that are listed or eligible for listing in the CRHR, or in a local register of historical resources, would not change. The impact determination would remain less than significant for operations.

Construction related to ground disturbance, including grading and excavation, of Holocene deposits would have the potential to disturb and destroy TCRs that are currently unknown. Tribal consultation findings indicate that the entire alignment is sensitive for potential buried, unidentified TCRs. The locations of the Maravilla crossover and Lambert crossover would also be sensitive for potential buried, unidentified TCRs. Although the ADI and additional crossover locations are heavily disturbed and urbanized, some of construction activities would extend below the disturbed surface and into undisturbed Holocene deposits which have the potential to preserve buried cultural resources. If present, these undisturbed soils would lie below artificial fill, pavement, and other recent disturbances and would overlie older Quaternary, pre-human occupation soils. Cultural resources may be buried in these Holocene soils beneath natural alluvial deposits near watercourses or hidden beneath pavement and other development at unknown locations. As evaluated in the Recirculated Draft EIR for the base Alternatives 1 and 3, if unmitigated, this potential disturbance of TCRs during construction of the Crossover Refinements, would result in a significant impact. MM TCR-1, MM TCR-2, and MM TCR-3, as described in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, would ensure that workers have a clear understanding of TCRs that may be present in the construction area, and that procedures and plans would be in place for monitoring for and safely handling TCRs. With implementation of mitigation, impacts would be less than significant. Therefore, the Recirculated

Draft EIR evaluation of impacts on TCRs that are listed or eligible for listing in the CRHR, or in a local register of historical resources, would not change. The impact determination would remain less than significant with mitigation for construction.

2.4.15.2 Impact TRC-2 (Native Tribal Significance)

2.4.15.2.1 Guideway Refinement

No specific surviving resources of tribal significance were identified within the ADI. Consultation did indicate that unknown, buried resources that may be eligible for inclusion in the CRHR may exist within the ADI. However, operational activities would not require additional ground-disturbance and would therefore not impact or adversely change a TCR that is significant to a California Native American tribe. The Recirculated Draft EIR evaluation of impacts on TCRs that are significant to California Native American tribes would not change. The impact determination would remain less than significant for operations.

Excavation for construction of the Guideway Refinement would have the potential to disturb and destroy TCRs that are currently unknown. As identified for Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, if unmitigated, this potential disturbance of TCRs during construction of the Guideway Refinement, would result in a significant impact. MM TCR-1, MM TCR-2, and MM TCR-3, as discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, would ensure that workers have a clear understanding of TCRs that may be present in the construction area, and that procedures and plans would be in place for monitoring for and safely handling TCRs. With implementation of mitigation, impacts would be less than significant. Therefore, the Recirculated Draft EIR evaluation of impacts on TCRs that are significant to California Native American tribes would not change. The impact determination would remain less than significant with mitigation for construction.

2.4.15.2.2 Crossover Refinements

Operation and construction of the Crossover Refinements would not affect TCRs differently than Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Although the Maravilla crossover Lambert crossover and tail tracks are located just outside of the APE analyzed in the Recirculated Draft EIR, these areas fall within the records search area for the Project. Based on this records search, no specific surviving resources of tribal significance were identified within any of the crossover sites.

Operation of the crossovers would not require additional ground-disturbance that could disturb buried resources. Project operations would consist of LRT and would not impact or directly change a TCR that is significant to a California Native American tribe. Therefore, the Recirculated Draft EIR evaluation of impacts on TCRs that are significant to California Native American tribes would not change. The impact determination would remain less than significant for operations.

Construction related to ground disturbance, including grading and excavation, of Holocene deposits would have the potential to disturb and destroy TCRs that are currently unknown. Tribal consultation findings indicate that the entire alignment is sensitive for potential buried, unidentified TCRs. The locations of the Maravilla crossover and Lambert crossover would also be sensitive for potential buried, unidentified TCRs. Although the ADI and additional crossover locations are heavily disturbed and urbanized, some of these activities would extend below the disturbed surface and into undisturbed Holocene deposits which have the potential to preserve buried cultural resources. If present, these undisturbed soils would lie below artificial fill, pavement, and other recent disturbances and would overlie older Quaternary, pre-human occupation soils. Cultural resources may be buried in

these Holocene soils beneath natural alluvial deposits near watercourses or hidden beneath pavement and other development at unknown locations. No precontact archaeological sites were identified in the Crossover Refinement sites, so precise locations with a higher potential to contain such resources cannot be identified. As evaluated in the Recirculated Draft EIR for the base Alternatives 1 and 3, if unmitigated, this potential disturbance of TCRs during construction of the Crossover Refinements would result in a significant impact. MM TCR-1, MM TCR-2, and MM TCR-3, as discussed in the Recirculated Draft EIR and provided in Chapter 5 of the Final EIR, would ensure that workers have a clear understanding of TCRs that may be present in the construction area, and that procedures and plans would be in place for monitoring for and safely handling TCRs. With implementation of mitigation, impacts would be less than significant. Therefore, the Recirculated Draft EIR evaluation of impacts on TCRs that are significant to California Native American tribes would not change. The impact determination would remain less than significant with mitigation for construction.

2.4.15.3 Tribal Cultural Resources Conclusion

As described above, the Design Refinements would not result in any material difference in tribal cultural resources impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on tribal cultural resources (Impact TCR-1 and Impact TCR 2) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard tribal cultural resources.

2.4.16 Utilities and Service Systems

The Recirculated Draft EIR assessed potential impacts on utilities in Section 3.16 using thresholds based on Appendix G of the CEQA Guidelines. An alternative would have a significant impact related to utilities if it would:

- Impact UTL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- Impact UTL-2: Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
- Impact UTL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Impact UTL-4: Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- Impact UTL-5: Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

2.4.16.1 Impact UTL-1 (Relocation or Construction)

2.4.16.1.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. Thus, operation of the Guideway Refinement would not affect utility demand differently than Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Guideway Refinement would not require the expansion of an existing water, wastewater treatment, stormwater, electrical power, or natural gas facility or construction of a new water, wastewater treatment, stormwater, electrical power, or natural gas facility and would result in less than significant impact on water, stormwater and electrical power facilities and no impact on wastewater treatment, natural gas, and telecommunication facilities. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

Construction activities with the Guideway Refinement and their associated impacts would be practically identical to those for the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. As evaluated in the Recirculated Draft EIR, construction of the Guideway Refinement would require relocating, temporarily rerouting, protecting in place or otherwise avoiding some utility mainline or other facilities. The construction impacts of utility work (e.g., temporary disruption of service) would be localized, occurring at identified underground and overhead utility conflicts with the aerial guideway and its foundations and has been evaluated for the Project in context with other physical effects on the environment in the Recirculated Draft EIR and Final EIR. Construction of the Guideway Refinement would not require the expansion of an existing facility or construction of a new facility beyond those already evaluated in the Recirculated Draft EIR and Final EIR and would result in a less than significant impact on water, wastewater, stormwater, electricity, natural gas, and telecommunication facilities. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.16.1.2 Crossover Refinements

Operation of the Crossover Refinements would not affect utility demand differently than Alternatives 1 and 3 or Alternatives 1 and 3 with the Montebello At-Grade Option. The Crossover Refinements would reconfigure existing and proposed trackwork, which would not result in additional utility demand. The Crossover Refinements would therefore not require the expansion of an existing water, wastewater treatment, stormwater, electrical power, or natural gas facility or construction of a new water, wastewater treatment, stormwater, electrical power, or natural gas facility. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

As with construction of the entire alignment, construction of the Crossover Refinements would require relocating, temporarily rerouting, protecting in place or otherwise avoiding some utility supply lines or other facilities. The construction impacts of utility work (e.g., temporary disruption of service) would be localized. Although the Maravilla crossover is located outside of the Build Alternative alignments, it would only modify the tracks and would thus not result in an expansion of existing facilities. The Atlantic/Whittier Station crossover would be located along an underground alignment and may require the lowering or additional hanging of existing utilities during the construction phase. The Greenwood crossovers would not affect utilities differently than Alternatives 1 and 3 since the proposed locations would remain within the same footprint and only modify the track. The Lambert crossover would deactivate existing utilities that service the commercial businesses that Alternative 1 would acquire and

would not require expansion of existing facilities. As evaluated in the Recirculated Draft EIR, during the Final Design phase, the Project team would coordinate with utility companies to request information, identify conflict locations between construction activities and existing facilities, and determine if relocation would be required or if utility lines could be protected in-place. Most utilities traversing the alignment would be protected in place with sleeve casing or other methods consistent with the Metro Rail Design Criteria. Preliminary relocation concepts would be developed and presented to each utility owner with affected facilities. Construction of the crossovers would not require the expansion of an existing facility or construction of a new facility beyond those already evaluated in the Recirculated Draft EIR and the Final EIR and would result in a less than significant impact on water, wastewater, stormwater, electricity, natural gas, and telecommunication facilities. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.16.2 Impact UTL-2 (Water Supplies)

2.4.16.2.1 Guideway Refinement

Operation of the Guideway Refinement would not affect municipal water demand differently as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. The Guideway Refinement would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. Operational activities or features that would require long-term, permanent sources of water use may include, but would not be limited to fire water systems. This water demand would be a slight increase and would not affect water supplies. Further, any water use would comply with Metro's Water Use and Conservation Policy, which specifies that water efficiency and conservation methods would be adopted and maintained. Operational activities would not significantly deplete municipal water supplies during normal, dry, or multiple dry years. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation.

Construction activities would generally not result in the use of significant amounts of municipal water resources. As with Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, water would be used for dust suppression of exposed soils during excavation and grading. Additionally, the construction of the aerial guideway would necessitate the use of jet grouting during installation of the cast-in-drilled-hole (CIDH) piles. Jet grouting is an engineered technique that injects water, air, and cement-based grout with high pressure jets of water or grout to remove and loosen soil and replace the removed soil with cement-based grout. As compared to the base Alternatives 1 and 3, construction of the Guideway Refinement would require less water for the installation of the aerial guideway, because the aerial guideway would be shorter with the Guideway Refinement than under the base Alternatives 1 and 3. Further, water demand of this magnitude would be intermittent and temporary in nature and the amount of water consumed would be much less than the projected future capacity incremental water use. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.16.2.2 Crossover Refinements

Operation and construction of the Crossover Refinements would have similar impacts to municipal water as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Operation of the Crossover Refinements would incrementally expand the footprint of the Project but is not expected to increase in municipal water use as compared to the base Alternatives 1 and 3. Further, any water use would comply with Metro's Water Use and Conservation Policy, which specifies that water efficiency and

conservation methods would be adopted and maintained. Operational activities would not significantly deplete municipal water supplies during normal, dry, or multiple dry years. Construction activities would generally not result in the use of significant amounts of municipal water resources. Similar to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, water would be used for dust suppression of exposed soils during excavation and grading. Water demand of this magnitude would be intermittent and temporary in nature and the amount of water consumed would be much less than the projected future capacity incremental water use. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation and construction.

2.4.16.3 Impact UTL-3 (Wastewater)

2.4.16.3.1 Guideway Refinement

Operation and construction of the Guideway Refinement would have the same effects on wastewater as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Operation of the Guideway Refinement would not include a new source of wastewater and would not directly generate population growth that would require wastewater services. Further, the Guideway Refinement would not include an underground segment that would require sump pumps/clarifiers. Construction of the Project, including the Guideway Refinement would generate wastewater through the use of temporary worker restrooms. Wastewater generation would be negligible in relation to the size and capacity of the wastewater treatment system and would not overburden the system. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation and construction.

2.4.16.3.2 Crossover Refinements

Operation and construction of the Crossover Refinements would have the same effects on wastewater as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Operation of the Crossover Refinements would not include a new source of wastewater and would not directly generate population growth that would require wastewater services. Construction of the Project, including the Crossover Refinements, would generate wastewater through the use of temporary worker restrooms. Wastewater generation would be negligible in relation to the size and capacity of the wastewater treatment system and would not overburden the system. The Atlantic/Whittier Station crossover would be located underground. As evaluated in the Recirculated Draft EIR, elevators would have emergency ejector pits and underground stations and control rooms at at-grade stations would be equipped with sump pumps/clarifiers that would drain to the sewer in the event of a flood. Any discharges associated with these connections would be subject to a wastewater discharge permit and would be intermittent and irregular. The Atlantic/Whittier Station crossover would not affect sewer discharge in a materially different way than the base Alternatives 1 and 3. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation and construction.

2.4.16.4 Impact UTL-4 (Solid Waste)

2.4.16.4.1 Guideway Refinement

Operation of the Crossover Refinements would have the same effects on solid waste as the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Operation of the Guideway Refinement would not include a direct source of solid waste. Indirect sources of solid waste or trash would be generated by transit users at stations. However, since the Guideway Refinement is a change in the at-grade and aerial configuration of the guideway, there would be no additional indirect sources of solid waste as a result of this refinement. Operation of the Guideway Refinement would not result in a net increase in project-related solid waste generation in excess of state or local standards. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operations.

As with the Alternatives 1 and 3 evaluated in the Recirculated Draft EIR, the construction of the Guideway Refinement would involve the generation and removal of solid waste to accommodate the various demolition and construction activities. The formwork and temporary engineering for the aerial guideway would generate waste, including bulky, heavy materials such as wood and building components. The removal of debris (e.g., soil, asphalt, concrete) is anticipated for construction of the at-grade portion of the Guideway Refinement. This would result in an incremental and temporary increase in solid waste disposal at landfills and other waste disposal facilities. As evaluated in the Recirculated Draft EIR, there would be adequate capacity available in Los Angeles County to handle anticipated solid waste generation during the construction period and, thus, temporary solid waste generation associated with construction of the Project, including the Guideway Refinement, and would not create a need for additional solid waste disposal facilities. In addition, the construction contractor would comply with Assembly Bill 939, which requires a Solid Waste Diversion Program and diversion of at least 50 percent of the solid waste from landfills to recycling facilities; therefore, construction would not conflict with policies and objectives to reduce the amount of solid waste disposed in landfills. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.16.4.2 Crossover Refinements

Operation of the Crossover Refinements would have the same effects on solid waste as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Operation of the Crossover Refinements would not include a direct source of solid waste. Indirect sources of solid waste or trash would be generated by transit users at stations. However, since the Crossover Refinements reconfigures existing or proposed trackwork only, there would be no additional indirect sources of solid waste as a result of this refinement. Operation of the Crossover Refinements would not result in a net increase in project-related solid waste generation in excess of state or local standards. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operations.

Construction of the Crossover Refinements would have similar effects on solid waste generation as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. During the construction phase, the Maravilla crossover would require the removal of debris (e.g., soil, asphalt, concrete) to construct the at-grade crossovers. The Atlantic/Whittier Station crossover would have an incremental increase of solid waste for the excavation of soils when grading for construction due to the larger station size. The Greenwood crossovers would minimally affect solid waste as compared to Alternatives 1 and 3 since the proposed locations would remain have only a slightly greater footprint. The Lambert crossover

would involve the generation and removal of solid waste, such as wood, concrete, soil, and asphalt, to accommodate the demolition of additional buildings. The Lambert crossover would also require the grading and therefore disposal of additional excavated material. The expanded footprint from the Maravilla crossover, Atlantic/Whittier Station crossover, Greenwood crossovers, and Lambert crossover would result in an incremental and temporary increase in solid waste disposal at landfills and other waste disposal facilities. As evaluated in the Recirculated Draft EIR, there would be adequate capacity available in Los Angeles County to handle anticipated solid waste generation during the construction period and, thus, temporary solid waste generation associated with construction of the Crossover Refinements and would not create a need for additional solid waste disposal facilities. In addition, the construction contractor would comply with Assembly Bill 939, which requires a Solid Waste Diversion Program and diversion of at least 50 percent of the solid waste from landfills to recycling facilities; therefore, construction would not conflict with policies and objectives to reduce the amount of solid waste disposed in landfills. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for construction.

2.4.16.5 Impact UTL-5 (Solid Waste Regulations)

2.4.16.5.1 Guideway Refinement

Operation and construction of the Guideway Refinement would be required to comply with all applicable federal, state, and local statutes and regulations, pertaining to solid waste disposal. As discussed under Impact UTL-4 above, small amounts of solid waste would be generated during operation and construction of the Guideway Refinement; however, there is no element of operational or construction activities that would be outside of compliance. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operations and construction.

2.4.16.5.2 Crossover Refinements

Operation and construction of the Crossover Refinements would be required to comply with all applicable federal, state, and local statutes and regulations, pertaining to solid waste disposal. As discussed under Impact UTL-4 above, small amounts of solid waste would be generated during operation and construction of the Crossover Refinements; however, there is no element of operational or construction activities that would be outside of compliance. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operations and constructions.

2.4.16.6 Utilities Conclusion

As described above, the Design Refinements would not result in any material difference in utilities and service systems impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a substantial increase in the severity of previously identified impacts on utilities and service systems (Impact UTL-1, Impact UTL-2, Impact UTL-3, Impact UTL-4, and Impact UTL-5) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to utilities and service systems.

2.4.17 Growth-Inducing Impacts

The Recirculated Draft EIR assessed potential impacts on growth inducing impacts in accordance with Section 15126.2(e) of the State CEQA Guidelines. An alternative would have a significant impact related to growth inducement if it would:

- Impact GRW-1: Foster economic or population growth or the construction of additional housing either directly or indirectly; encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

2.4.17.1 Impact GRW-1 (Growth Inducement)

2.4.17.1.1 Guideway Refinement

With the Guideway Refinement, the guideway would follow the same route as Alternatives 1 and 3 evaluated in the Recirculated Draft EIR and would not result in any differences in the project footprint or operations. The Guideway Refinement is a variation in the guideway configuration and does not involve the construction of additional housing or commercial establishments that could induce economic or population growth. Operation of the Guideway Refinement would not affect growth differently than Alternative 1 and Alternative 3 evaluated in the Recirculated Draft EIR. Construction activities for the Guideway Refinement and the associated impacts would be practically identical to those of the base Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. As evaluated in the Recirculated Draft EIR, neither the aerial guideway nor at-grade guideway segments would induce development beyond the development opportunities associated with the land use plans, policies, and regulations of agencies with jurisdiction over the project area. The Guideway Refinement is not anticipated to foster unplanned growth either directly or indirectly, and less than significant growth-inducing impacts would occur. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact would remain less than significant for operation and construction.

2.4.17.1.2 Crossover Refinements

The Crossover Refinements are modifications within the existing and proposed light rail transit infrastructure, designed to improve efficiency and service reliability. They do not involve the construction of additional housing or commercial establishments that could induce economic or population growth. Accordingly, the Crossover Refinements would not alter the existing land use or increase development capacity for the area, ensuring that they would not induce development beyond the development opportunities associated with the land use plans, policies, and regulations of agencies with jurisdiction over the project area. Construction activities for the Crossover Refinements and associated impacts would be practically identical to Alternatives 1 and 3 evaluated in the Recirculated Draft EIR. Therefore, the Crossover Refinements are not expected to foster unplanned growth either directly or indirectly, and less than significant growth-inducing impacts would occur. Therefore, the Recirculated Draft EIR evaluation of impacts would not change; the impact determination would remain less than significant for both operation and construction.

2.4.17.2 Growth-Inducing Impacts Conclusion

As described above, the Design Refinements would not result in any material difference in growth-inducing impacts compared to those described for Alternative 1 and Alternative 3 in the Recirculated Draft EIR. The Design Refinements would not involve new significant environmental impacts or a

substantial increase in the severity of previously identified impacts on growth-inducing (Impact GRW-1) under Project or cumulative conditions. Therefore, the Design Refinements do not meet the standards for recirculation of an EIR with regard to growth-inducing impacts.