5.0 Alternatives

5.1 Introduction

The identification and analysis of alternatives is a fundamental concept under CEQA. CEQA requires consideration of alternative development scenarios and an analysis of the potential impacts associated with those alternatives. Through comparison of these alternatives to the proposed project, the advantages of each can be weighed and analyzed. Section 15126.6(a) of the CEQA Guidelines requires that an EIR "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant impacts of the project, and evaluate the comparative merits of the alternatives."

Additionally, Sections 15126.6(e) and (f) of the CEQA Guidelines state:

- The specific alternative of "no project" shall also be evaluated along with its impact. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.
- The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant impacts of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making.

Pursuant to the CEQA Guidelines stated above, a range of alternatives to the Draft EIR proposed project are evaluated in this EIR. The discussion in the section provides:

- A description of the alternative(s)
- An analysis of whether the alternatives meet the objectives of the proposed project
- A comparative analysis of the alternatives and the Draft EIR proposed project. The focus of this analysis is to determine if alternatives are capable of avoiding or reducing the significant environmental impacts of the proposed project. Per Section 15126.6(d) of the CEQA Guidelines, significant impacts of an alternative shall be discussed, but in less detail than those of the proposed project).

5.2 Criteria for Alternative Analysis

In developing the alternatives to be addressed in this EIR, the potential alternatives were evaluated in terms of their ability to meet the basic project objectives, while reducing or avoiding the environmental impacts of the proposed project identified in Section 3.0, Environmental Analysis, Impacts, and Mitigation, of the EIR. As discussed in Section 2.0, Project Description, the project's objectives are as follows:

- Reduce train movement constraints resulting from ''stub-end'' operation by providing run-through service consistent with the *2018 California State Rail Plan* and SCORE Program
- Provide an expanded passenger concourse at LAUS that is functionally modern with enhanced safety elements, ADA accessibility, and passenger amenities
- Design track and platform infrastructure at LAUS necessary to accommodate the planned HSR system consistent with California Proposition 1A (High-Speed Rail Act), passed in 2008
- Maintain rail/transit service and minimize disruption to commuters during construction, to the maximum extent feasible
- Avoid and minimize impacts on sensitive environmental resources to the maximum extent feasible, including but not limited to historical resources
- Contribute to a regional reduction of GHG emissions and VMT

5.3 Alternatives Eliminated from Detailed Consideration

In addition to specifying that the EIR evaluate "a range of reasonable alternatives" to the project, Section 15126.6(c) of the CEQA Guidelines requires that an EIR identify any alternatives that were considered but were rejected as infeasible.

5.3.1 Alternative Site

Section 15126.6(f)(2) of the CEQA Guidelines addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant impacts of the proposed project would be avoided or substantially lessened by putting the proposed project in another location. Only locations that would avoid or substantially lessen any of the significant impacts of the project need to be considered for inclusion in the EIR. Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

An alternative site location was rejected because multiple planning documents identify the proposed improvements at LAUS.

The project is identified in the 2017 Federal Transportation Improvement Program. The 2016 RTP/SCS identifies improvements at LAUS as a critical first step in the implementation of regional transportation

solutions. From a regional perspective, the proposed project would expand existing transportation options, foster multimodal connectivity throughout the region, and accommodate the planned HSR system. LAUS is identified as a high-quality transit area and transit priority area within the 2016 RTP/SCS, and Link US is specifically identified as the number one future transit improvement for the region.

The *2018 California State Rail Plan* identified run-through service at LAUS as a 2027 regional goal for the Los Angeles Urban Mobility Corridor. Specifically, it states "Provide run-through service at LAUS as part of the Link Union Station program, allowing for the restructuring of intercity and regional services passing through LAUS, covering local and express stations throughout the region on at least a half-hourly basis (local stops) and hourly basis (express stops)."

Furthermore, in April 2018, California State Transportation Agency awarded an $875 million grant under the Transit and Intercity Rail Capital Program to SCRRA for implementation of the SCORE Program. The grant includes $398 million to implement the first phase of run-through service at LAUS for regional/intercity rail trains via early action/interim improvements (also referred to as the Interim Condition or Phase A of the Link US project).

Based on the discussion above, an alternative location would not meet the following project objectives:

- Reduce train movement constraints resulting from ''stub-end'' operation by providing run-through service consistent with the 2018 *California State Rail Plan* and SCORE Program
- Provide an expanded passenger concourse at LAUS that is functionally modern with enhanced safety elements, ADA accessibility, and passenger amenities
- Design track and platform infrastructure at LAUS necessary to accommodate the planned HSR system consistent with California Proposition 1A (High-Speed Rail Act), passed in 2008

5.4 Evaluation of Alternatives

5.4.1 No Project/No Build Alternative

The CEQA Guidelines require analysis of the no project alternative (PRC Section 15126). According to Section 15126.6(e), "the specific alternative of 'no project' shall also be evaluated along with its impacts. The 'no project' analysis shall discuss the existing conditions at the time the NOP is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

For the purposes of this EIR, the no project alternative is evaluated in this section as the no project/no build alternative and assumes that the project would not be implemented. LAUS would not be transformed from a stub-end tracks station into a run-through tracks station and the 28-foot wide pedestrian passageway would continue to serve as the primary east-west connection for passengers at LAUS. Due to the constraints of the current stub-end configuration, train movements through LAUS are assumed to be similar to existing

conditions. Operational capacity at LAUS would not be enhanced to meet the demands of the broader rail system, thereby further constraining Metro's ability to accommodate forecasted travel demands at LAUS.

Land Use and Planning

There would be no impact on existing or planned land uses because baseline conditions would remain the same. Land use development would continue to occur in the project study area pursuant to the City's General Plan and zoning regulations. Compared to the proposed project, a significant impact would be avoided because infrastructure that could preclude non-motorized connections from LAUS to the Los Angeles River would not be in place.

Transportation and Traffic

No major changes to the roadway network would occur with the exception of background traffic associated with projects or improvements proposed in the 2016 RTP/SCS and others evaluated in the *Link US Traffic Impact Study*. There would be no construction activities associated with this alternative or short-term increases in construction-related vehicle trips. Compared to the proposed project, significant impacts associated with construction- and operational-related traffic delays at intersections in the traffic study area would be avoided because construction activities would not occur and the existing intersections south of LAUS would be unaffected.

Aesthetics

Changes to existing aesthetic conditions in any of the Visual Assessment Units would not occur, aside from changes resulting from land development within the project study area. This alternative does not include infrastructure elements that would present a dominant feature substantially larger than any of the current surroundings within the William Mead Homes community, or that would present a new source of substantial light or glare in the area. Compared to the proposed project, this alternative would avoid significant impacts related to aesthetics.

Air Quality and Global Climate Change

The existing stub-end rail configuration at LAUS would remain, and there would be no increase in operational capacity at LAUS to meet the demands of the broader regional and intercity rail system. A continuation of existing conditions would result in generation of similar pollutant emission levels and exposure to the same sensitive receptors based on current levels of train movements. No increase in emissions of criteria air pollutants would occur because train movements are anticipated to remain similar to existing conditions. No conflict with the AQMP would occur, and no new GHG emissions would be generated. This alternative would not expose sensitive receptors to substantial pollutant concentrations during construction. Compared to the proposed project, this alternative would avoid significant impacts related to air quality and global climate change.

As described in Section 3.5, Air Quality and Global Climate Change, the proposed project is a key component to achieving the 2016 RTP/SCS GHG reduction goals for the SCAG region. This alternative would contribute to GHG emission reductions for Los Angeles County in 2040 or for the SCAG region as

a whole. In this context, the reductions in GHGs in 2040, and beneficial impacts as facilitated by the project, would not be realized. The no project/no build alternative would not realize the beneficial impacts of reducing GHG emissions by indirectly reducing the number of vehicles on the road and indirectly altering regional on-road motor vehicle travel.

Noise and Vibration

No construction-related impacts on noise and vibration sensitive land uses would occur. No increase in operational-related noise or vibration levels would result, because train movements at LAUS are assumed to be at or near capacity. Moderate and severe noise impacts on sensitive receptors (William Mead Homes and Mozaic Apartments) would not occur; therefore, this alternative would not require the construction of a sound wall at William Mead Homes. Compared to the proposed project, significant impacts related to noise both would be avoided because construction-related noise would not occur and train movements are anticipated to remain similar to the current condition.

Biological Resources

Existing conditions in the biological study area would remain. Compared to the proposed project, this alternative would avoid significant impacts related to biological resources because potential impacts on MBTA-covered species, bat maternity colonies, and protected trees would not occur.

Hydrology and Water Quality

Groundwater would not be affected during construction. No new stormwater drainage improvements, or water quality measures would be implemented. Therefore, existing drainage patterns and runoff quantities would remain the same and no impacts would occur. Compared to the proposed project, this alternative would avoid significant impacts related to hydrology and water quality because construction-related impacts on water quality would not occur, new impervious surfaces would not be introduced, and no changes to existing permitting documentation would be required.

Geology and Soils

Changes to geologic conditions in the project study area would not occur as a result of grading or construction of new facilities; therefore liquefaction hazards, soil erosion, lateral spreading, or hazardous conditions resulting from expansive soils would not occur. Compared to the proposed project, this alternative would avoid significant impacts related to geology and soils.

Hazards and Hazardous Materials

No construction-related ground disturbance or demolition of existing structures would occur. Compared to the proposed project, this alternative would avoid impacts on identified RECs, because no excavation activities would occur. No ACMs or LBP would be released into the environment because no existing structures would be demolished. Compared to the proposed project, this alternative would avoid significant impacts related to hazards and hazardous materials.

Utilities/Service Systems and Energy Conservation

No development would occur; therefore, there would not be an increased demand on utilities and service systems, an unnecessary consumption of energy resources, or a conflict with initiatives for renewable energy or energy efficiency. Compared to the proposed project, this alternative would avoid impacts on utilities/service systems.

Cultural Resources

No construction-related ground disturbance or demolition of existing structures would occur; therefore, cultural resources within the project footprint would not be disturbed. Compared to the proposed project, this alternative would avoid impacts on the following historical resources: LAUS, Vignes Street Undercrossing, Friedman Bag Company – Textile Division Building, North Main Street Bridge, and Archaeological Site CA-LAN-1575/H. This alternative would also avoid the indirect visual impact associated with the elevated portion of the above-grade passenger concourse and its incompatibility with the historic fabric and other character defining features of LAUS. In addition, this alternative would avoid potential impacts on archaeological resources, paleontological resources, human remains, and tribal cultural resources.

Public Services

No development would occur; therefore, there would not be an increased demand for public services. Compared to the proposed project, this alternative would avoid impacts on public services related to emergency response times.

Conclusion - No Project/No Build Alternative

All of the impacts associated with the proposed project would be avoided. However, this alternative would not meet any of the project objectives.

5.4.2 Build Alternative

Introduction

Section 15126.6(a) of the CEQA Guidelines requires that an EIR describe a range of alternatives to the project which would feasibly attain most of the project objectives, but would avoid or substantially lessen any of the significant impacts of the project. The build alternative is evaluated as a project alternative because it would meet all of the project objectives and would reduce noise impacts identified for the proposed project.

As previously mentioned in Section 5.1, CEQA does not require the alternatives to be evaluated at the same level of detail as the proposed project. However, based on the comments received during the NOP scoping period, public outreach, public meetings, and from stakeholders, a detailed analysis of the build alternative is included in this EIR.

Alternative Description

The build alternative is a design alternative to the proposed project. A detailed description of the proposed project is included in Section 2.0, Project Description. The primary differences between the proposed project and the build alternative are related to the lead tracks north of LAUS and the new passenger concourse. Compared to the proposed project, the build alternative includes the following:

- Dedicated Lead Tracks North of LAUS – The build alternative includes reconstruction of the throat, with two new lead tracks that would be located outside of the existing railroad ROW, facilitating a dedicated track alignment, with a total of seven lead tracks. Reconfiguration of Bolero Lane and Leroy Street would also be required.
- At-Grade Passenger Concourse – The build alternative includes an at-grade passenger concourse below the rail yard.

All other infrastructure elements are similar to the proposed project. The components of the build alternative are described north to south below.

- Throat and Elevated Rail Yard – The build alternative accommodates future HSR trains on dedicated lead tracks in the throat segment. The build alternative includes the addition of two new lead tracks for a total of seven lead tracks in the throat segment (with future HSR trains and some express/intercity services using the two western dedicated lead tracks and most regional/intercity trains using the five eastern lead tracks). The rail yard would be elevated approximately 15 feet. New passenger platforms with a grand canopy covering the elevated rail yard would be constructed, with an underlying assumption that the platform infrastructure and associated VCEs (stairs, escalators, and elevators) would be modified at a later date to accommodate the planned HSR system. The existing railroad bridges in the throat segment at Vignes Street and Cesar Chavez Avenue would also be reconstructed under the build alternative. North of CP Chavez, the build alternative also includes safety improvements at the Main Street public at-grade crossing on the west bank of the Los Angeles River (medians, restriping, signals, and pedestrian and vehicular gate systems) to facilitate future implementation of a quiet zone by the City of Los Angeles.
- At-Grade Passenger Concourse – The build alternative includes a new at-grade passenger concourse that would include space dedicated for passenger circulation, waiting areas, ancillary support functions (back-of-house uses, baggage handling, etc.), transit-serving retail, office/commercial uses, and open spaces and terraces. The at-grade passenger concourse would also create an opportunity for an outdoor, community-oriented space and enhanced ADA accessibility. The at-grade passenger concourse would be constructed below the elevated rail yard. Amtrak ticketing and baggage check-in services would occur at a centralized location where new carousels would be constructed at the concourse level. The at-grade passenger concourse also includes new plazas east and west of the elevated rail yard (East and West Plazas), and a grand canopy that would extend up to 70 feet above the elevated rail yard. New VCEs would also be constructed throughout the concourse to enhance passenger movements throughout LAUS while meeting ADA and NFPA platform egress code requirements.

- Run-Through Tracks – The build alternative includes up to 10 new run-through tracks (including a new loop track) in the run-through segment. All infrastructure south of LAUS is the same as described above for the proposed project.

The build alternative would also require modifications to US-101 and local streets (including potential street closures and geometric modifications); railroad signal, positive train control, and communications-related improvements; modifications to the Gold Line light rail platform and tracks; modifications to the main line tracks on the west bank of the Los Angeles River; modifications to Keller Yard and BNSF West Bank Yard (First Street Yard); modifications to the Amtrak lead track; new access roadways to the railroad ROW; additional ROW; new utilities; utility relocations, replacements, and abandonments; and new drainage facilities/water quality improvements.

The project footprint and the infrastructure improvements associated with the build alternative are presented on Figure 5-1 through Figure 5-5.

Figure 5-1. Build Alternative Project Footprint (Throat Segment) (Map 1 of 5)

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Figure 5-2. Build Alternative Project Footprint (Throat, Concourse, and Run-Through Segments) (Map 2 of 5)

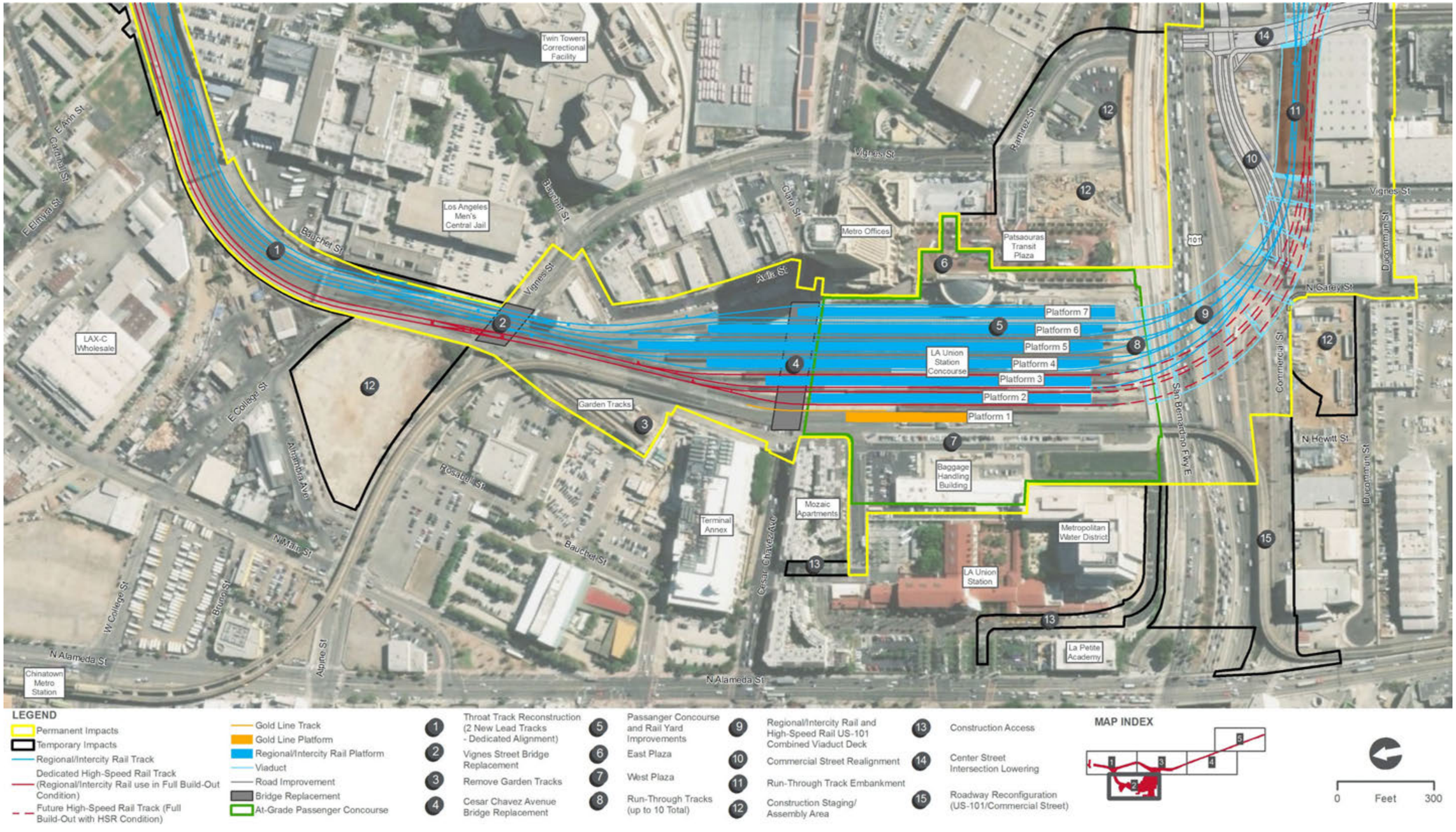

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Figure 5-3. Build Alternative Project Footprint (Run-Through Segment) (Map 3 of 5)

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Figure 5-4. Build Alternative Project Footprint (Run-Through Segment) (Map 4 of 5)

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Figure 5-5. Build Alternative Project Footprint (Run-Through Segment) (Map 5 of 5)

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Track Improvements

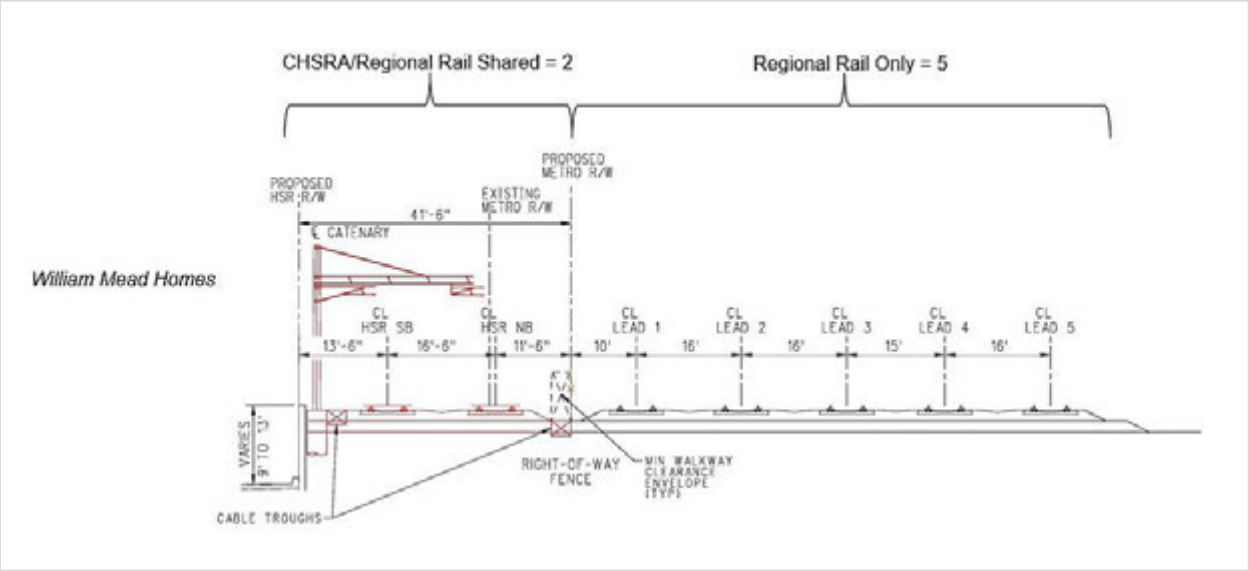
Throat Segment

The build alternative would include reconstruction of the throat with a total of seven lead tracks, with the two westernmost tracks separated from the rest of the five tracks by a fence. The two westernmost tracks would be dedicated for future HSR trains and would extend outside of the existing railroad ROW. Similar to the proposed project, the two westernmost tracks north of the rail yard would be constructed with a minimum 650-foot radius with turnouts compatible for future implementation of the planned HSR system on a dedicated track alignment. Retaining wall(s) would also be required and would extend outside the existing railroad ROW to contain the newly-constructed dedicated tracks.

- In the interim condition, only special track work would occur in the throat segment to facilitate implementation of run-through service with up to two run-through tracks.
- In the full build-out condition, the throat would be reconstructed with seven new lead tracks. The two western compatible lead tracks would be utilized by regional/intercity rail trains. Retaining wall(s) would also be required and would extend outside the existing railroad ROW to support the newly-constructed dedicated tracks.
- In the full build-out with HSR condition, regional/intercity rail trains would operate on the five eastern lead tracks in the throat (to access Platforms 4 through 7), and HSR trains would operate on the two western electrified tracks within a dedicated track alignment (to access Platforms 2 and 3) (Figure 5-6). In the full build-out with HSR condition, if after the initiation of HSR service it is desired for regional/intercity rail trains to utilize HSR tracks a connection could be constructed between the two alignments.

Similar to the proposed project, the throat would be raised by a maximum of 15 feet at an approximate 0.7 percent maximum grade, and the Garden Tracks would be removed. Figure 5-6 depicts a cross-section of the full build-out with HSR condition with the two western dedicated tracks in the throat segment.

Figure 5-6. Cross-Section of Dedicated Lead Tracks for Regional/Intercity Rail and the Planned High-Speed Rail System – Segment 1: Throat Segment at William Mead Homes



Concourse Segment (Elevated Rail Yard and Platform Improvements)

Elevated Rail Yard and Platforms

Similar to the proposed project, the build alternative would include a total of 14 tracks on an elevated rail yard. The platform improvements in the interim and full build-out conditions described for the proposed project, including the interim ramp, and the two track and platform configuration design options, are also applicable to the build alternative.

For the build alternative, a structural system of girders will support the Gold Line platform and rail (replacing the fill of today) to create the wider, more open at-grade passenger concourse below. The installation of girders requires the Gold Line Platform 1 and Tracks 1 and 2 to be replaced in its entirety. In addition, the proposed concrete girders depth requires that the platform elevation is raised to achieve a more desirable concourse ceiling height. The Gold Line Platform 1 would also be lengthened.

Run-Through Segment

The run-through track improvements associated with the loop track and regional/intercity rail and HSR infrastructure south of LAUS described for the proposed project would be applicable to the build alternative.

The build alternative includes construction of up to six regional/intercity rail run-through tracks (Tracks 7 through 12) that would accommodate a new loop track and extension of regional/intercity rail service to the main line along the west bank of the Los Angeles River. The build alternative also accommodates future construction of up to four HSR run-through tracks (Tracks 3 through 6) south of LAUS that would connect to the main line along the west bank of the Los Angeles River under the First Street Bridge.

Structural Improvements

All structural improvements (with exception of the concourse area) discussed for the proposed project would be similar to the build alternative. With dedicated lead tracks north of LAUS, the retaining wall to support dedicated lead tracks would encroach outside of the existing railroad ROW under the build alternative.

Rail Signal Improvements

The build alternative requires similar railroad signal, communication, and PTC systems as the proposed project.

Utility Improvements

The build alternative requires the similar utility improvements as the proposed project.

Drainage and Water Quality Improvements

The build alternative requires similar drainage and water quality improvements as the proposed project.

Circulation and Streetscape Improvements

All of the circulation and streetscape improvements discussed for the proposed project, including potential street closures, the realignment of Commercial Street, and the realignment and lowering of the existing Commercial Street/Center Street intersection, would also be required for the build alternative. A major difference with the build alternative is the reconfiguration of Bolero Lane as a result of dedicated tracks encroaching outside of the railroad ROW.

To accommodate future HSR tracks within a dedicated track alignment, as well as a retaining wall adjacent to William Mead Homes, Bolero Lane must be modified, which may also result in associated modifications to neighboring City streets, including Leroy Street and Bloom Street. Bolero Lane has a residential street classification with 24 on-street parallel parking spaces (including one handicap space); and provides access to a residential parking lot with 31 additional spaces (including two handicap spaces) for William Mead Homes.

The following factors were assessed to determine minimum width required to restore the functionality of Bolero Lane:

- The need to maintain access for emergency vehicles along the street if a vehicle is stopped in either direction of travel – 20 feet is typically required to accommodate emergency vehicles around a stopped vehicle
- The need to restore one lane of travel in either direction (10-foot minimum width)
- The need to restore on-street parking for residents (8-foot-wide spaces on either side)
- The need to accommodate sidewalks for pedestrians behind the curbs

Two design options were considered to reconfigure Bolero Lane in a manner that would meet these objectives, and to also accommodate potential replacement parking for the impacted parking spaces that currently exist along Bolero Lane and within the residential parking lot. Each of the concepts being considered are variations of the City's Local Street Standard, which is consistent with the street classification, and would likely require an application for variance with the City of Los Angeles.

The two design options under consideration to modify Bolero Lane are described in Table 5-1 and shown on Figure 5-7 and Figure 5-8.

Table 5-1. Bolero Lane Design Option Characteristics

Design Option	Ultimate Width		Lost Setback Width (from Building to Curb)	On-Street Parking Accommodated	Total Parking Spaces		
	Roadway (curb to curb)	Sidewalk			Removed	Replaced	Net (+/-)
A	28 feet	6 feet (North Side Only)	Varies 8.1 feet - 10.2 feet	Yes, North Side Only	24	14	- 10 spaces
B	36 feet	6 feet	Varies 15.6 feet - 19.9 feet	Yes, Both Sides	25	36	+11 spaces

Figure 5-7. Bolero Lane Design Option A: 28-foot-wide Roadway Width

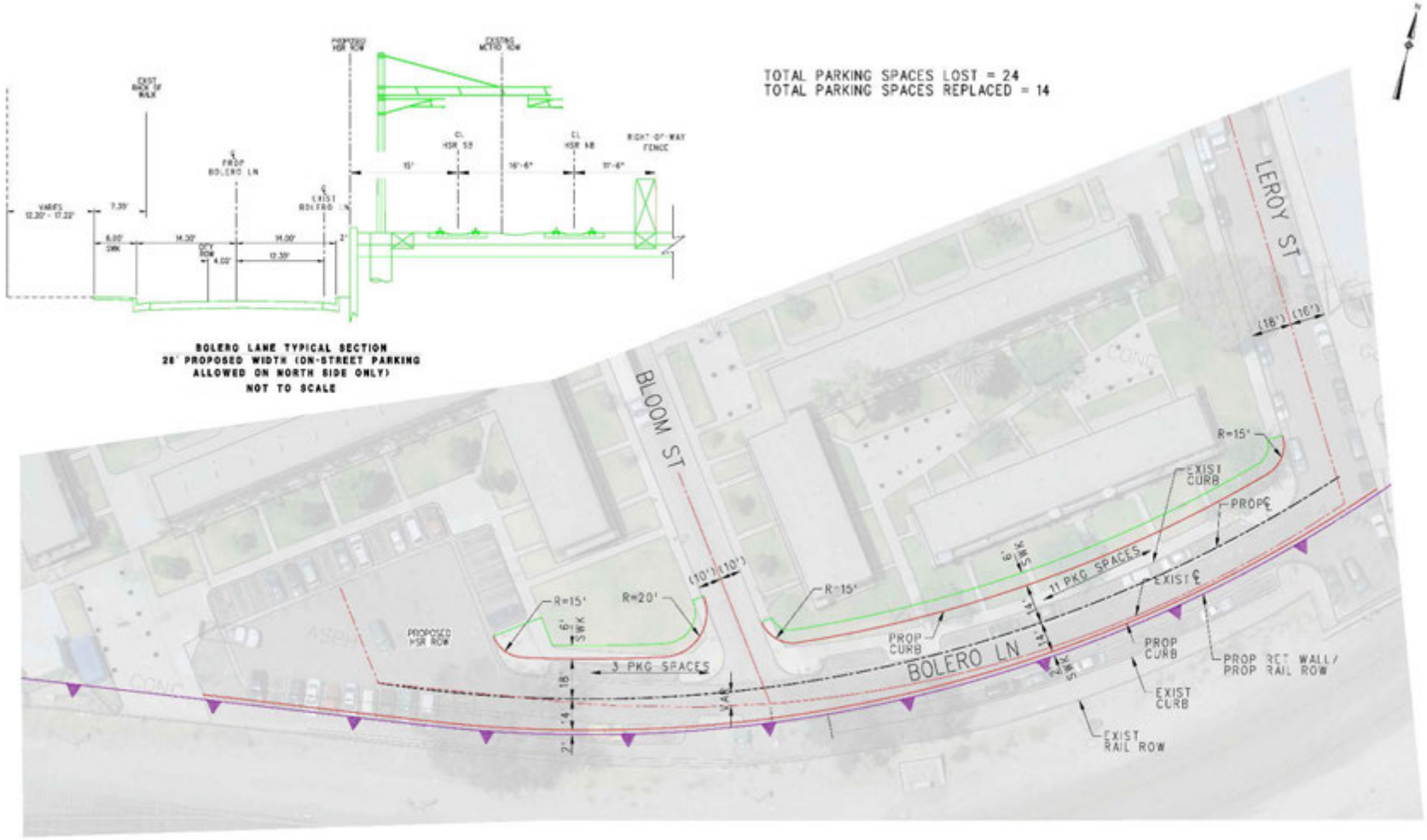


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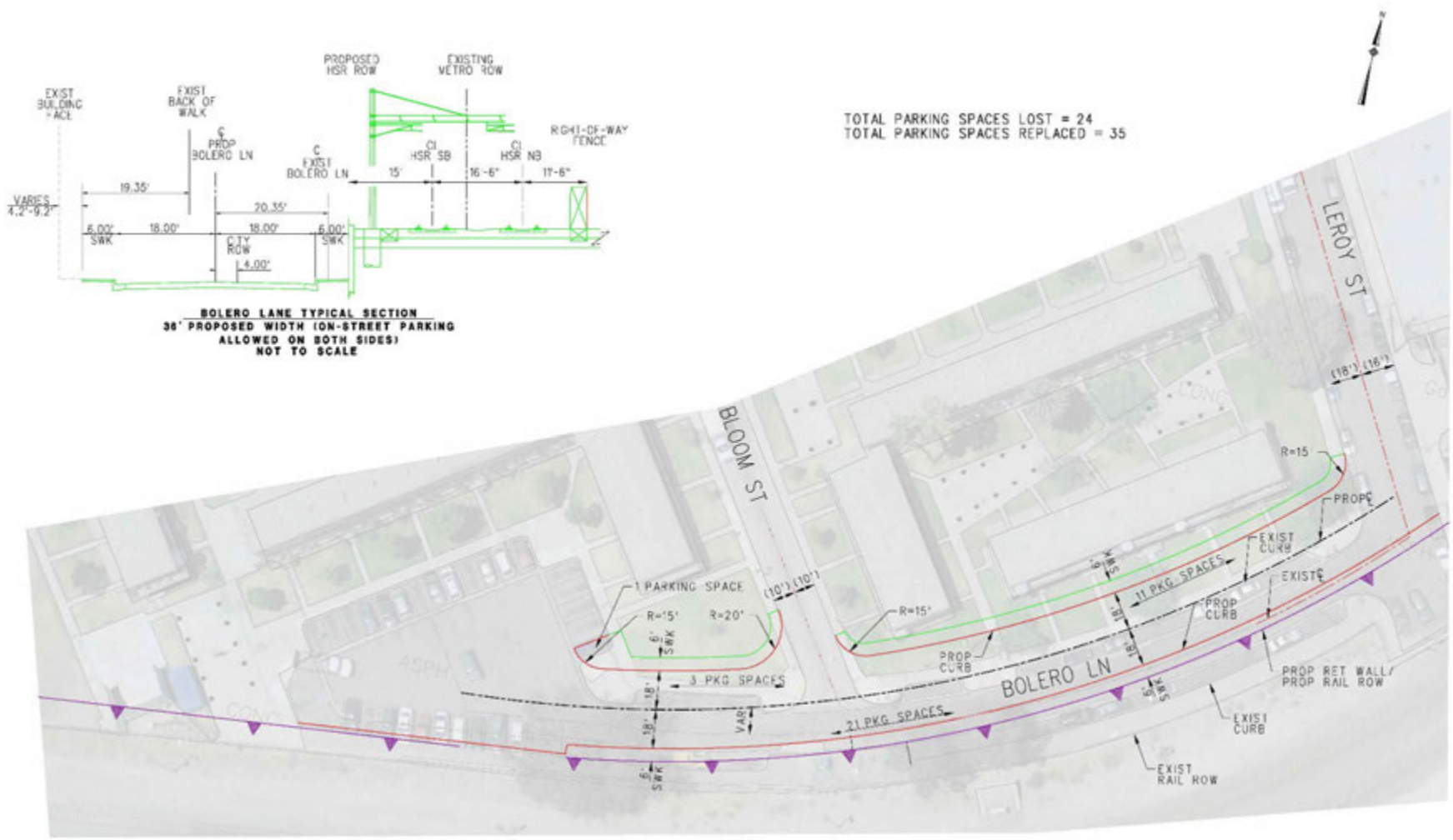
Figure 5-8. Bolero Lane Design Option B: 36-foot-wide Roadway Width



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Impact Analysis

Land Use and Planning

THRESHOLD 3.2-A	Physically divide an established community

Direct Impacts – Construction

Similar to the proposed project, the build alternative is located in an urbanized environment with a heavy presence of existing transportation infrastructure, and commercial and industrial land uses. As described in the Community Impact Report, residential communities located in the project study area include William Mead Homes (Segment 1), Mozaic Apartments (Segment 2), and One Santa Fe Apartments (Segment 3). The build alternative would be constructed mostly within the existing railroad ROW, and none of these residential communities, or any other established community, would be physically divided. Therefore, similar to the proposed project, no impact would occur.

Direct Impacts – Operations

Similar to the proposed project, the build alternative would be located in an urbanized environment with a heavy presence of existing transportation infrastructure, including the existing railroad ROW in Segment 1, the rail yard and LAUS facilities in Segment 2, and the US-101, BNSF West Bank Yard, and other rail-related infrastructure in Segment 3. In Segment 2, all proposed infrastructure would occur within the general limits of LAUS on agency-owned property. The two areas where infrastructure is proposed outside of existing transportation ROWs include Bolero Lane, near William Mead Homes, and Commercial Street, east of Garey Street.

- *William Mead Homes Area* - Bolero Lane would be modified that would also require modifications to neighboring City streets including Leroy Street and Bloom Street near the rear (easternmost extent) of William Mead Homes. Multiple geometric modifications to Bolero Lane were considered in a manner that would meet fire access requirements, maintain pedestrian connectivity along adjacent sidewalks, and accommodate potential replacement parking for residents. This established community would not be divided because long-term vehicular and pedestrian/bicycle access would be maintained within the community. The lead tracks proposed along the eastern extent of the complex may result in modifications to existing facilities at the complex; however, upon implementation of the build alternative, no portion of this complex or surrounding community would be divided.

- *Commercial Street Area* – South of US-101 in Segment 3, run-through track infrastructure would be constructed in the interim condition outside of existing transportation ROWs where vacant properties and commercial and manufacturing/industrial land uses are currently present. Run-through track infrastructure south of LAUS would require realignment of Commercial Street closer to US-101, where vacant property and staging areas currently exist. Realignment of

Commercial Street is proposed to avoid large columns within the center of Commercial Street, and enhance opportunities for future redevelopment on parcels south of LAUS with adequate vehicular access and connectivity consistent with applicable community plans. Design elements integrated into the realignment of Commercial Street would optimize public safety and fulfill complete streets initiatives for the affected portion of Commercial Street in Segment 3. Due to the existence of vacant properties adjacent to US-101, and because the proposed reconfiguration of Commercial Street is proposed in a manner that would maintain access and connectivity opportunities for future community development, the build alternative would not physically divide established communities.

Similar to the proposed project, the build alternative would not divide established communities. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, after construction of run-through track infrastructure south of LAUS is complete, future redevelopment south of LAUS in Segment 3 would not be precluded. Unused space and staging areas could be converted to future development lots (with access thereto) in the interim and full build-out conditions. Therefore, similar to the proposed project, no indirect impacts would occur under the build alternative.

THRESHOLD 3.2-B	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect

Direct Impacts – Construction

Metro is authorized by the State of California to develop its property under its enabling legislation (AB 152) and Public Utilities Code 30631a. Similar to the proposed project, construction of the build alternative would be conducted in accordance with all applicable policies and regulations of agencies with jurisdiction or discretion over project facilities and/or site conditions. The build alternative would be constructed in accordance with Metro's Green Construction Policy and is consistent with the 2016 RTP/SCS that encourages sustainable design of public facilities, integrated expansion of new land uses with enhanced transportation options, and enhanced multimodal connectivity throughout the region. Similar to the proposed project, impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, the build alternative is generally consistent with the plans and policies that encourage sustainable design of public facilities, expansion of existing transportation options, and increased rail service in Southern California. In addition to supporting Metrolink's implementation of the SCORE Program, the build alternative would implement the goals and objectives of multiple planning documents that guide future growth around LAUS and rail operations in Southern California, including the following:

- California Transportation Plan 2040 (Caltrans 2016)
- 2016 RTP/SCS (SCAG 2016)
- 2018 California State Rail Plan (Caltrans 2018)
- 2018 Business Plan (CHSRA 2018)
- Alameda District Specific Plan (City of Los Angeles 1996)

As described in the 2016 RTP/SCS, the Link US project would improve rail service and safety for Metrolink and the LOSSAN rail corridor, and it would also provide interconnectivity to the planned HSR system, making it an attractive alternative to congested highways. The 2016 RTP/SCS identifies improvements at LAUS as a critical first step in the implementation of regional transportation solutions. From a regional perspective, the project would expand existing transportation options, foster multimodal connectivity throughout the region, and accommodate the planned HSR system. LAUS is identified as a high-quality transit area and transit priority area within the 2016 RTP/SCS, and the project is specifically identified as the number one future transit improvement for the region.

At the local level, the build alternative would achieve Purpose B of the ADSP by providing continued and expanded development of the site as a major transit hub for the region and a mixed-use development providing retail, tourism, and related uses. Likewise, the build alternative would be consistent with Goal 10 of the CCNCP by developing a public transit system that improves mobility with convenient alternatives to automobile travel. The build alternative may require the City of Los Angeles to implement certain discretionary actions and entitlements in accordance with adopted plans and policies to reflect the proposed modifications to the circulation network south of LAUS appropriately in the City of Los Angeles Mobility Plan 2035.

Due to the similarities to the proposed project, project-related infrastructure for the build alternative south of LAUS may conflict with the same plans and policies relative to active transportation and connections from LAUS to the Los Angeles River (discussed in the Community Impact Assessment [Appendix D of this EIR]).

Similar to the proposed project, the build alternative does not include a non-motorized route from LAUS to the Los Angeles River, and proposed infrastructure would conflict with the vision of a neighborhood gateway portal to the Los Angeles River, as identified in the Los Angeles River Revitalization Master Plan. For this same reason, the build alternative would conflict with the RIO Overlay District guidelines, and two of the four recommendations and associated actions of the LAUS Sustainable Neighborhood Assessment, as summarized below:

- Recommendation 2 (Neighborhood Connectivity) – The build alternative does not include pedestrian accommodations, cycling facilities, or linkages for pedestrians and cyclists in or around LAUS.
- Recommendation 3 (River Connections) – Although parcels south of LAUS would be acquired to facilitate construction of the run-through track infrastructure south of LAUS, the build alternative does not provide a pedestrian linkage between the east side of LAUS to the Los Angeles River.

Furthermore, the build alternative would conflict with the *City of Los Angeles Mobility Plan 2035*, Policy 2.12 that includes recommendations to:

- Include walkway and bikeway facilities when installing a new bridge or exclusive transit ROW
- Provide safe connections between areas that are not directly accessible because of barriers such as rail lines and freeways

Based on these considerations, the build alternative conflicts with plans that promote neighborhood sustainability, connectivity, and non-motorized connections from LAUS to the Los Angeles River. The build alternative would result in impacts similar to the proposed project. In this regard, the build alternative would also result in a significant impact due to the operational traffic delays anticipated at two intersections south of LAUS. LADOT Traffic Impact Study Guidelines (LADOT 2016) require mitigation programs for impacts that are expected to be significant under CEQA to primarily aim to minimize the demand for trips by single-occupant vehicles by encouraging, promoting, and supporting the use of other sustainable modes of travel like public transit, walking, and bicycling. Consistent with LADOT Guidelines, Mitigation Measure LU-1 (described in the Section 3.2, Land Use and Planning) would improve connectivity between neighborhoods surrounding LAUS and facilitate cycling and walking in the project study area. Upon implementation of Mitigation Measure LU-1, impacts would be reduced to a level less than significant.

Indirect Impacts

Once constructed, the build alternative could encourage planned residential and commercial infill development by providing an economic driver for such development. Indirect impacts on surrounding land uses (induced growth) could also be beneficial by encouraging sustainable neighborhood development principles and other initiatives that would advance more efficient land use patterns and increased real estate values consistent with regional transportation and urban planning goals for the City of Los Angeles and the region as a whole. As with the proposed project, no indirect impact would occur.

Transportation

THRESHOLD 3.3-A	Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit

Direct Impacts – Construction

For the build alternative, construction activities are estimated to generate 1,535 daily trips (in passenger car equivalent), which is 892 daily trips more than the proposed project. Construction of the at-grade passenger concourse would generate a greater amount of vehicular trips during construction. Similar to the proposed project, implementation of the build alternative would result in significant delays at the following three intersections during construction:

- Intersection #2: Garey Street and Commercial Street (AM peak hour)
- Intersection #10: Alameda Street and Los Angeles Street EB (PM peak hour)
- Intersection #15: Vignes Street and Main Street (PM peak hour)

Implementation of the build alternative would result in significant delays at an additional two intersections during construction:

- Intersection # 1: Alameda Street and Commercial Street (PM peak hour);
- Intersection #27: Mission Road and Cesar Chavez Avenue (AM peak hour)

Compared to the proposed project, implementation of the build alternative would result in significant delays at two more intersections in the 2031 plus project construction condition. Overall, implementation of this alternative would result in a greater impact related to transportation and traffic compared to the proposed project. As with the proposed project, Mitigation Measure TR-1 (described in Section 3.3, Transportation and Traffic) would reduce this impact to a level less than significant.

Similar to the proposed project, construction activities associated with the build alternative would generate additional construction traffic on US-101 and would result in temporary closure of portions of US-101 during the night (10:00 PM to 6:00 AM) in one direction at a time during construction of the bridge superstructure. These night closures are expected to last up to 20-consecutive days. The southbound ramps at Commercial Street may either be partially or fully restricted for extended periods during construction of the US-101 viaduct over the existing on- and off ramps. As with the proposed project, the build alternative would not increase the traffic demand by more than 2 percent of the capacity (*Link US Traffic Impact Study* [Appendix E of this EIR, Table 8-7]); therefore, impacts are considered less than significant. However, as discussed below under Threshold 3.3-D, due to the required closures and potential for other hazardous

situations associated with the freeway closures along the US-101, Mitigation Measure TR-1 is proposed to maintain capacity along the US-101 during construction to the maximum extent practicable. Implementation of Mitigation Measure TR-1 would reduce impacts to a level less than significant. The build alternative would result in impacts similar to the proposed project.

Direct Impacts – Operations

Study Intersections –2031 with Project

Similar to the proposed project, in 2031, implementation of the build alternative would result in significant traffic delays at two intersections that would exceed LADOT guidelines:

- Intersection #2: Garey Street and Commercial Street (LOS E – AM peak hour, LOS E – PM peak hour)
- Intersection #4: Center Street and Commercial Street (LOS F – AM and PM peak hour)

These impacts related to traffic delays are similar to the proposed project, and would be considered significant. As with the proposed project, Mitigation Measure LU-1 (described in Section 3.2, Land Use and Planning) is proposed to further reduce the demand for trips by single-occupant vehicles, while maximizing multimodal connectivity and access for transit riders via the planning, design, and construction of new multimodal active transportation infrastructure in the traffic study area. In addition, Mitigation Measure TR-2 would reduce impacts associated with project-related increased delays at Intersection #4: Center Street and Commercial Street to a level less than significant. However, there are no feasible mitigation measures to minimize the impacts at Intersection #2: Garey Street and Commercial Street, and the increased project-related operational traffic delays would continue to exceed LADOT guidelines in 2031. As with the proposed project, Mitigation Measure LU-1 is proposed to reduce the impact; however, traffic delays at Intersection #2: Garey Street and Commercial Street would remain significant and unavoidable under the build alternative.

Study Intersections – 2040 with Project

Similar to the proposed project, in 2040, implementation of the build alternative would result in significant traffic delays at two intersections that would exceed LADOT guidelines:

- Intersection #2: Garey Street and Commercial Street (LOS D – AM and PM peak hour)
- Intersection #4: Center Street and Commercial Street (LOS F – AM and PM peak hour)

These impacts related to traffic delays would be considered significant. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measure TR-2 would reduce impacts associated with project-related increased delays at Intersection #4: Center Street and Commercial Street to a level less than significant. However, there are no feasible mitigation measures to minimize the impacts at Intersection #2: Garey Street and Commercial Street, and the increased project-related operational traffic delays would continue to exceed LADOT guidelines in 2040. As with the

proposed project, Mitigation Measure LU-1 is proposed to reduce the impact; however, traffic delays at Intersection #2: Garey Street and Commercial Street would remain significant and unavoidable under the build alternative.

US-101 Main Line –2031 with Project

Similar to the proposed project, based on future operating conditions on the US-101 main line in 2031, traffic generated by the build alternative would not have an impact on US-101 operating conditions during the peak hours in 2031, and no impact would occur.

US-101 Main Line –2040 with Project

Similar to the proposed project, based on future operating conditions on the US-101 main line in 2040, traffic generated by the build alternative would not have an impact on US-101 operating conditions during the peak hours in 2040, and no impact would occur.

Indirect Impacts

Similar to the proposed project, the build alternative would support statewide and regional mandates for a more efficient and robust transit system in Southern California, thereby supporting multiple plans, ordinances, and policies with measures for enhanced rail operational capacity at LAUS. No impact would occur.

THRESHOLD 3.3-D	Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

Direct Impacts – Construction

Similar to the proposed project, construction activities for the build alternative would result in temporary construction-related roadway hazards in the traffic study area. Existing roadways and intersections may be subject to temporary detours and lane blockages at multiple locations throughout the traffic study area. The US-101 main line and on- and off-ramps at Commercial Street would be also be subject to temporary lane width reductions. Additionally, short-radius curves and/or short sight distances may occur during construction. The build alternative would result in impacts similar to the proposed project. This is considered a significant impact. As with the proposed project, Mitigation Measure TR-1 (described in Section 3.3, Transportation and Traffic) would reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, the build alternative would not create sharp curves or dangerous intersections in the traffic study area. The design and construction of project-related roadway and bridge improvements, including the realignment of Commercial Street, run-through track infrastructure over the US-101, and new roadways east of Center Street are being designed and coordinated with local agencies, including the City's Bureau of Engineering and Department of Transportation, Caltrans, Metrolink, and CHSRA, as applicable. All project features, including new roadway intersections and pedestrian

connections, would be designed and constructed to comply with applicable agency standards and specifications to maximize safety for both motorized and non-motorized forms of transportation. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, the build alternative would not fundamentally change the existing uses at LAUS or the roadway system in the traffic study area, and no long-term, indirect transportation-related impacts within the surrounding area would result. Therefore, no indirect impacts would occur.

THRESHOLD 3.3-E	Result in inadequate emergency access

Direct Impacts – Construction

Similar to the proposed project, the build alternative would be located within Area H of the Los Angeles Central Evacuation Map, of which Cesar Chavez Avenue and Alameda Street are designated as disaster routes, and US-101 is designated as a disaster route freeway (County of Los Angeles Department of Public Works 2008a).

Similar to the proposed project, modifications to the Vignes Street Bridge and the Cesar Chavez Avenue Bridge would result in temporary closure of one lane in each direction for both roadways, although a minimum of one lane would be maintained throughout the duration of construction. A full closure would occur along Commercial Street between the US-101 ramp at Garey Street and Center Street to construct the run-through track infrastructure south of US-101. Closures would require traffic detouring. Given that traffic would be diverted to local roadways, the LOS of these adjacent intersections would be affected. As previously indicated above, significant delays significant delays anticipated at five intersections during construction would affect traffic along Commercial, Alameda, and Vignes Streets. Compared to the proposed project, implementation of the build alternative would result in significant delays at an additional two intersections.

Construction activities in the vicinity of these affected intersections, especially US-101 and Alameda Street, could interfere with emergency response and access. Although construction would require some temporary roadway closures, not all of the roadway closures would occur at the same time, and other roadways would be available for evacuation. Notwithstanding these circumstances, this is considered a significant impact. As with the proposed project, Mitigation Measure TR-1 (described in Section 3.3, Transportation and Traffic) would reduce impacts to a level less than significant.

Direct Impacts – Operations

As previously discussed, in the 2031 and 2040 with project conditions, minimal project-related increase delays are expected within the traffic study area. Planned internal roadway reconfiguration and associated modifications to fire lanes and access roads would not significantly affect emergency access, primarily

because the West Plaza would be accessible to emergency service providers using the existing fire lane network. Emergency access would be maintained from Patsaouras Transit Plaza, which would provide emergency and fire lane access to the eastern side of LAUS. Planned internal roadway reconfigurations and associated modifications would be coordinated and approved by the Fire Marshal to ensure the safest access is provided for emergency service providers. Upon completion of construction, no changes would be made to the identified evacuation routes as identified by the City. This is considered a less than significant impact.

New vertical circulation elements in the new passenger concourse (stairways, escalators, and elevators) would improve passenger egress and ADA accessibility throughout LAUS. In addition, the new passenger concourse is designed to meet all applicable NFPA codes and requirements for passenger egress and emergency evacuations. The build alternative would result in similar impacts as the proposed project. Based on these considerations, impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, no indirect impacts related to emergency routes and limited access to the surrounding area would occur under the build alternative. Therefore, no indirect impacts would occur.

THRESHOLD 3.3-F	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

Direct Impacts – Construction

Public Transit

The build alternative would result in impacts similar to the proposed project. At this preliminary stage of engineering design, detailed construction phasing plans that correspond to means and methods to maintain on-time performance for rail operators at LAUS are not available; although it is anticipated construction of the lead tracks, the elevated rail yard, and associated platform improvements would cause potential schedule delays and increased dwell times at LAUS, and potentially other station locations, because not all lead tracks, rail yard tracks, and platforms would be in service at one time. Decreased performance for rail operators at LAUS and temporary disruptions to commuters daily travel patterns may occur. Passengers may also be affected by construction of the new passenger concourse due to detours and temporary accessibility disruptions to Gold Line, Red Line, and Purple Line platforms. This is considered a significant impact. As with the proposed project, Mitigation Measure TR-3 (described in Section 3.3, Transportation and Traffic) would reduce this impact to a level less than significant.

LADOT's Dash Route D, which uses Center Street, would also be affected by construction of the build alternative. During construction of the run-through track structures south of LAUS, a full closure of Commercial Street between US-101 ramp/Garey Street and Center Street would be required. As a result, the build alternative has the potential to affect the bus schedule for this route through a combination of

detours, temporary road closures, and changes in scheduling. The build alternative would result in impacts similar to the proposed project. This is considered a significant impact. As with the proposed project, Mitigation Measure TR-1 (described in Section 3.3, Transportation and Traffic) would reduce impacts on bus service operators during construction to a level less than significant.

Bicycle and Pedestrian Facilities

Similar to the proposed project, access to and from the existing Amtrak and Metrolink boarding platforms would be modified to facilitate construction of the build alternative. Appropriate safety provisions would be required to be in place to minimize disruptions to pedestrian ingress and egress through LAUS, including sequencing construction within the rail yard (and passenger concourse) and maintaining safe and accessible access to platforms for the Gold Line and regional/intercity trains. Pedestrian and bicycle access to and from LAUS would also be temporarily affected, and bicyclists could be subject to hazardous conditions near work zones during the construction of bridge improvements (e.g., Cesar Chavez Avenue and Vignes Street) and modifications to local streets (including potential street closures and vacations). The build alternative would result in impacts similar to the proposed project. This is considered a significant impact. As with the proposed project, Mitigation Measure TR-1 would reduce impacts on bicyclists and pedestrians during construction to a level less than significant.

Direct Impacts – Operations

Public Transit

Similar to the proposed project, the build alternative is consistent with the plans and policies relative to expansion of existing transportation options and increased rail service in Southern California:

- SCORE Program
- California Transportation Plan 2040 (Caltrans 2016)
- 2016 RTP/SCS (SCAG 2016)
- 2018 California State Rail Plan (Caltrans 2018)
- 2018 Business Plan (CHSRA 2018)

As described in the 2016 RTP/SCS, Link US would improve rail service and safety for Metrolink and the LOSSAN rail corridor, and it would also provide interconnectivity to the planned HSR system, making it an attractive alternative to congested highways. The 2016 RTP/SCS identifies improvements at LAUS as a critical first step in the implementation of regional transportation solutions. From a regional perspective, the build alternative would expand existing transportation options, foster multi-modal connectivity throughout the region, and accommodate the planned HSR system. LAUS is identified as a high-quality transit area and transit priority area within the 2016 RTP/SCS, and the project is specifically identified as the number one future transit improvement for the region. As with the proposed project, impacts are considered beneficial under the build alternative.

Bicycle and Pedestrian Facilities

Center Street – Similar to the proposed project, roadway improvements on Center Street from Ducommun Street to US-101 would be constructed for the build alternative consistent with the Connect US Action Plan and would include the same elements as the proposed project:

- 6-foot-wide cycle tracks with 3-foot buffers in both directions
- 15-foot sidewalks with street trees and landscaping to enhance pedestrian accessibility

Commercial Street – Commercial Street would be realigned to the north, away from the run-through track embankment south of LAUS. Columns supporting the US-101 viaduct would be located within the median and sidewalks of the realigned portion of Commercial Street at the location of the crossing. The realigned portion of Commercial Street would accommodate 5-foot-wide Class II bicycle lanes and 13-foot-wide sidewalks and intersect with Center Street just south of US-101.

Vignes Street – As part of the reconstruction of the Vignes Street Bridge, the existing street section would be maintained at the current width, although the bridge span would be increased from its existing length of 75 feet to 100 feet to provide the horizontal clearance for future roadway improvements in accordance with the City's Mobility Plan 2035. The Vignes Street Bridge structure would be constructed with sufficient width to accommodate the following, per the City's Mobility Plan 2035:

- ROW width: 100 feet
- Roadway width: 70 feet

Cesar Chavez Avenue – The Cesar Chavez Avenue Bridge would be replaced as part of the throat reconstruction in Phase A. The existing street section would be maintained at the current width, although the bridge span would be increased from its existing length of 75 feet to 100 feet to provide the horizontal clearance for future roadway improvements in accordance with the City's Mobility Plan 2035 and the City's vision for future comprehensive treatments. The Cesar Chavez Avenue bridge structure would be constructed with sufficient width to accommodate the following per the City's Mobility Plan 2035 and DTLA Community Plan updates currently in process:

- ROW width: 100 feet
- Roadway width: 70 feet

Although Metro is committed to not precluding future active transportation infrastructure to be implemented by the City of Los Angeles, and achieving compatibility with other planned or completed projects, including the Connect US Action Plan and the Los Angeles River Path Project, the build alternative would conflict with the City's Mobility Plan 2035 Policy 2.12. The build alternative would result in impacts similar to the proposed project. Based on these considerations, this is considered a significant impact. As with the proposed project, Mitigation Measure LU-1 (described in Section 3.2, Land Use and Planning) would improve connectivity between neighborhoods surrounding LAUS and facilitate cycling and walking

the in the project study area. Upon implementation of Mitigation Measure LU-1, impacts would be reduced to a level less than significant.

Indirect Impacts

Similar to the proposed project, the build alternative would accommodate a substantial increase in rail operational capacity for the region, reducing train idling (dwell) time and improving on-time performance for trains using LAUS. The build alternative would also indirectly contribute to other cumulative benefits for the region, including a regional reduction of GHG emissions and VMT, as demonstrated by the operational analysis provided in the 2016 RTP/SCS (Program EIR Table 3.3.4-4) (SCAG 2016).

As discussed above, the build alternative also includes design elements consistent with Metro's *Connect US Plan*, which is intended to encourage people to walk and bicycle between LAUS, First Street/Central Street Station, and the surrounding neighborhoods. Therefore, no indirect impacts would occur.

Aesthetics

THRESHOLD 3.4-C	Substantially degrade the existing visual character or quality of the site or its surroundings

Direct Impacts – Construction

Similar to the proposed project, during construction of the build alternative, vehicle and equipment use would be visible from surrounding land uses, including William Mead Homes, the Mozaic Apartments, and Father Serra Park (minimal views). Vehicles and equipment would be contained within the project footprint; however, some construction areas would be directly adjacent to residential buildings. Under the build alternative, construction activities would extend outside of the railroad ROW closer to some of the apartment buildings at William Mead Homes than the proposed project. Construction activities would also extend into the road during replacement of the Vignes Street and Cesar Chavez Avenue Bridges. The build alternative would result in impacts greater than the proposed project. However, due to the temporary nature of construction activities, impacts would be less than significant.

Direct and Indirect Impacts – Operations

Visual Assessment Unit #1 (William Mead Homes)

Similar to the proposed project, although the visual quality of Visual Assessment Unit #1 is low, the build alternative would introduce new, noticeable infrastructure elements and attributes to the visual landscape that would contribute to a substantial degradation to existing visual character. These attributes include:

- Form (visual mass and shape)
- Dominance (position, size, or contrast)
- Scale (apparent size as it relates to the surroundings)

Views from Key View #1a and Key View #1b would consist of a retaining wall supporting new lead tracks that would run alongside William Mead Homes. A sound wall is also required to reduce operational noise levels below applicable thresholds. The retaining wall and sound wall would present new linear infrastructure elements that would be a dominant feature substantially larger than any of the current surroundings within the residential community. Compared to the proposed project, the retaining wall and sound wall for the build alternative would be located closer to the William Mead Homes buildings to facilitate a dedicated track alignment through the throat segment. Encroachment outside of the existing railroad ROW would require reconfiguration of Bolero Lane, parking modifications, removal of an existing tree, and other civil improvements, including relocation of existing overhead power lines. The physical encroachment outside of the railroad ROW, combined with the scale of the retaining wall, would result in a moderate change to visual character and quality. Viewer response would be high; therefore, impacts would be moderately high. Construction of a sound wall would further increase the scale of visual change, resulting in a moderately high change to visual quality. Viewer response would be high; therefore, visual impacts would be high. Impacts of the build alternative would be greater than the proposed project due to the position of the wall on the property. This is considered a significant impact. Mitigation Measure AES-1 (described in Section 3.4, Aesthetics) is proposed to reduce impacts to a level less than significant.

Figure 5-9 through Figure 5-12 depict Key Views #1a and #1b in the existing and post-project conditions upon implementation of the build alternative with a new retaining wall and a new sound wall adjacent to the William Mead Homes complex. The visual simulations for Key Views #1a and #1b were prepared to illustrate the potential visual impacts resulting from a new retaining wall and sound wall at these locations. The retaining wall and sound wall depicted are conceptual, and do not include any aesthetic treatments because these details are anticipated to be finalized during final design.

Figure 5-9. Key View #1a – Existing Condition (Retaining Wall)

Figure 5-10. Key View #1a – Post Project Condition (Retaining Wall and Sound Wall)

Figure 5-11. Key View #1b – Existing Condition (Retaining Wall)

Figure 5-12. Key View #1b –Post-Project Condition (Retaining Wall and Sound Wall)

Visual Assessment Unit #2 (Vignes Street Corridor)

Similar to the proposed project, views from Key Views #2a and #2b would consist of a new railroad bridge façade on the crossing over Vignes Street, and retaining walls to support new lead tracks in the throat segment. The new bridge would increase the scale of vertical elements in the visual landscape; however, within much of the corridor, the change would not substantially affect existing views in the full build-out condition due to the presence of existing infrastructure. Commuters on Vignes Street would have more proximal views as they approach the bridge.

The bridge would be placed in the same location as the existing bridge. The change in the height of the bridge over Vignes Street would result in a low change to visual character. Viewer response would be low for business owners/employees and visitors; therefore, impacts would be low for these viewer groups. Viewer response would be moderate for commuters; therefore, impacts would be moderately low for this viewer group. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Visual Assessment Unit #3 (Cesar Chavez Avenue Corridor/Mozaic Apartments)

Similar to the proposed project, views from Key Views #3a and #3b in the full build-out condition for the build alternative would consist of a new railroad bridge façade on the crossing over Cesar Chavez Avenue, retaining walls to support the new lead tracks and elevated rail yard, and platform canopies. The new bridge would support tracks that would be elevated 10 to 15 feet higher than the existing top of rail at this location. Some of the canopies would be visible from viewers along Cesar Chavez Avenue and residents of the Mozaic Apartments.

The new bridge would be replaced in the same location as the existing bridge, although the new canopies would introduce a more modern element into the railroad ROW. Similar to the proposed project, the new bridge and retaining walls to support elevated tracks for the build alternative would increase the scale of vertical and horizontal infrastructure elements in the visual landscape; however, the change would not substantially affect existing views. Commuters on Cesar Chavez Avenue would have more proximal views as they approach the bridge.

Similar to the proposed project, the change in the height and span of the bridge over Cesar Chavez Avenue, along with the introduction of new retaining walls, would result in a low change to visual character. Viewer response would be low for business owners/employees and visitors; therefore, impacts would be low for these viewer groups. Viewer response would be moderate for commuters; therefore, impacts would be moderately low for this viewer group. Impacts of the build alternative would be similar to the proposed project. Impacts are considered less than significant.

Visual Assessment Unit #4 (Alameda Street Corridor/Father Serra Park)

Compared to the proposed project, a reduced magnitude of impact from Key Views #4a and #4b would result from implementation of the at-grade passenger concourse with a grand canopy. No direct impact would occur because no changes to the visual quality of LAUS would occur due to the preservation of the historic main building (e.g., tile roof, stucco wall cladding, arched main entrance, decorated beams, and

tile floors) and other features, such as the ticketing halls, arcades, clock tower, and patios. For this reason, visual simulations for Key View #4a and #4b are not depicted for the build alternative.

Visual Assessment Unit #5 (Commercial Street/US-101 Corridor)

Views from Key Views #5a, #5b, and #5c would consist of new run-through structures south of LAUS, including the common viaduct/deck that would be constructed over US-101 in the interim condition. Unlike the proposed project, views of the at-grade passenger concourse elements would not be visible from south of LAUS, with exception of the grand canopy over the elevated rail yard.

Similar to the proposed project, the run-through track structures would be highly visible south of LAUS following construction of this infrastructure in the interim condition. The viaduct over US-101 would be constructed of materials similar to those used in the Alameda Street overhead crossing and the Gold Line viaduct, but it would be a more prominent structure than the existing Gold Line viaduct over US-101. The build alternative would result in a substantial addition of new transportation infrastructure elements to the existing visual environment south of LAUS, but the proposed improvements would be in context with the existing transportation infrastructure in this assessment unit, as it is primarily a transportation corridor with multiple highway and railroad-oriented uses. The scale of the highway corridor and surrounding development is linear and large; therefore, the addition of the run-through track viaduct structure and embankment would not significantly impact the low visual character of this visual assessment unit. Impacts of the build alternative in Visual Assessment Unit #5 would be similar to the proposed project.

Similar to the proposed project, the changes in views and scale from the run-through track structures would be moderately-high, although, in context with the surrounding transportation infrastructure and industrial land uses, the build alternative would result in a low change to visual character and quality (resource change). As there are no residential land uses or other sensitive land uses at this location, viewer response would vary from moderately-high for business owners/employees experiencing new, large structures, while the visual response of visitors and commuters on US-101 (northbound and southbound travelers) would be low as there would be minimal disruption to their visual expectations.

Travelers along northbound and southbound US-101 would be subject to the greatest duration of views of the US-101 viaduct structure, primarily because they would be travelling toward and under the viaduct, and in some cases slowly during heavy traffic. Views are anticipated to be no different than any other overhead crossings within Caltrans ROW. Although travelers along US-101 may be subject to a visual change with introduction of new run-through track infrastructure, the aesthetics of the proposed abutments and bents to support the US-101 viaduct would be designed consistent with other overhead crossings within Caltrans ROW, and this portion of US-101 is not a protected scenic highway.

For the proposed project, US-101 travelers would have limited views of the elevated portion of the new passenger concourse (northbound travelers especially), because the portion of US-101 south of LAUS is depressed, views of the new passenger concourse would be perpendicular to the direction travelers would be facing, and the existing retaining wall at the south end of LAUS is the primary visible feature in this area. Upon implementation of the proposed project, the rail yard would be elevated up to 15-feet higher than the

existing condition, the southern retaining wall would be expanded, and the above-grade passenger concourse would be constructed in the center of the rail yard, located on average 550 feet – and no closer than 360 feet – north of the US-101 ROW, further reducing the visibility of the concourse to travelers along US-101. Therefore, impacts would be moderate for business persons and low for visitors and commuters. Based on these considerations, this impact is considered less than significant. For the build alternative, views of the grand canopy may be visible, but at a reduced scale compared to the above-grade passenger concourse, due to the height. Impacts of the build alternative would be less than the proposed project.

Visual Assessment Unit #6

Within Visual Assessment Unit #6, the build alternative would include the construction of a new at-grade passenger concourse. Similar to the proposed project, as part of the new passenger concourse, new vertical circulation elements and standard amenities, including benches, variable message signs, new lighting, closed-circuit television security cameras, ticket vending machines, passenger waiting areas, and trash receptacles, would be distributed throughout the concourse. Similar to existing conditions, the rail yard would be within an exterior environment, although it would be elevated approximately 15 feet.

Under the build alternative, the new at-grade passenger concourse would replace the existing pedestrian passageway, ramps, and railings leading to the platforms and would introduce new modern concourse amenities with larger open aisles for enhanced ingress/egress throughout. The existing pedestrian passageway would be demolished. The scale and modern architectural style of the at-grade passenger concourse would result in changes to the character of the visual assessment unit; however, similar to the proposed project, the design of the passenger concourse would be compatible with the surrounding visual landscape in Downtown Los Angeles, would include sustainable design features consistent with the vision for LAUS, and would improve upon the existing aesthetics in the existing rail yard, ramp areas, and pedestrian passageway.

Similar to the proposed project, because the design of the concourse would be compatible with the existing setting, and would be expected to improve the existing aesthetics, the build alternative would result in a moderately-high and beneficial change to visual character and quality (resource change). Viewer response would be moderately-high for business owners/employees and visitors; therefore, impacts would be moderately-high for these viewer groups. Viewer response would be moderate for commuters, so impacts would be moderately-high for this viewer group. The impacts on business owners/employees, visitors, and commuters are anticipated to be beneficial. Impacts of the build alternative in Visual Assessment Unit #6 would be similar to the proposed project. Impacts are considered less than significant.

Views of New Passenger Concourse within Visual Assessment Unit #6

Architectural representations of the new at-grade passenger concourse depicting the interior and exterior views from within Visual Assessment Unit #6 were prepared. Figure 5-13 depicts the viewpoint locations that were selected to depict the concourse.

Figure 5-14 through Figure 5-19 depict views of and within the West Plaza, East Plaza, ingress/egress areas, waiting areas, vertical circulation elements, and platforms areas (Views A through F). The renderings are provided to illustrate the extent of architectural expansion and renovation proposed for LAUS.

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Figure 5-13. Viewpoint Locations of the New At-Grade Passenger Concourse

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Figure 5-14. View A – At-Grade Passenger Concourse
(Exterior View of West Plaza Looking North)

Figure 5-15. View B – At-Grade Passenger Concourse
(Interior View of Vertical Circulation Elements Looking North)

Figure 5-16. View C – At-Grade Passenger Concourse
(Interior View of Core Retail Space and Waiting Areas Looking East)

Figure 5-17. View D – At-Grade Passenger Concourse
(Exterior View of Platforms and Historic LAUS Looking West)

Figure 5-18. View E – At-Grade Passenger Concourse
(Interior View of East Plaza Looking East)

Figure 5-19. View F – At-Grade Passenger Concourse
(Exterior View of East Plaza Looking West)

THRESHOLD 3.4-D	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area

Direct Impacts – Construction

Similar to the proposed project, during construction of the build alternative, activities could occur during nighttime hours where temporary lighting is used at discrete locations for certain construction activities. The project study area is currently an urban area with multiple sources and types of lighting typically associated with a large, metropolitan city. The use of construction lighting during nighttime hours would not change the character of the area; however, depending on the placement of the temporary construction lighting, residences that are located in proximity to temporarily lighted areas may be affected. As a result, residents could be exposed to higher levels of lighting during the nighttime hours for a temporary duration throughout project construction. The build alternative would have impacts similar to the proposed project. This impact would be significant. As with the proposed project, Mitigation Measure AES-2 (described in Section 3.4, Aesthetics) would reduce construction-related light and glare impacts to a level less than significant.

Direct Impacts – Operations

Visual Assessment Unit #1

Similar to the proposed project, the build alternative would result in an increased number of trains and signals in the throat segment, which would result in an increase in lighting as trains move through the area; however, some of this lighting may be blocked by the sound wall required as part of Mitigation Measure NV-1 (described in Section 3.6, Noise and Vibration). Any new light poles that may be required for safety purposes are also anticipated to be blocked by the sound wall.

Visual Assessment Unit #1 is within a developed urban area, and there are a limited amount of light-sensitive land uses (residences in Segments 1 and 2 of the project study area). The additional lighting within an existing railroad ROW in an area heavily utilized by transportation uses would be minor, and impacts related to lighting would not be expected to substantially affect the surrounding area. The build alternative would have impacts similar to the proposed project. Impacts are considered less than significant.

Visual Assessment Unit #2

Similar to the proposed project, views within Visual Assessment Unit #2 would be limited primarily to the new bridge that would support new lead tracks over Vignes Street in the full build-out condition of the build alternative. The bridge would be elevated over Vignes Street; however, there would be no additional light or glare from the key views in the throat segment (Key Views #2a and #2b). The build alternative would have impacts similar to the proposed project. Impacts are considered less than significant.

Visual Assessment Unit #3

Similar to the proposed project, views within Visual Assessment Unit #3 would primarily consist of the new bridge that would support new lead tracks over Cesar Chavez Avenue in the full build-out condition. The bridge would be elevated, and lights would be incorporated into the design for safety purposes.

Similar to the proposed project, the build alternative would result in an increased number of trains through LAUS, which would increase the light from locomotives and trains as they move through the area. On each of the seven elevated platforms, new lighting would be incorporated into the design for safety purposes, which may result in added light for some of the units in the Mozaic Apartments, if not properly designed and installed. The new platform canopies also have the potential to result in additional daytime glare. Currently, there is a large amount of illumination in this visual assessment unit from the existing station, and the amount of lighting added by the build alternative would not represent a noticeable or significant increase over existing levels. Compared to the proposed project, operations-related light and glare impacts for Visual Assessment Unit #3 would be reduced under the build alternative, because the at-grade passenger concourse would be constructed below the rail yard. Impacts are considered less than significant.

Visual Assessment Unit #4

Similar to the proposed project, views of proposed infrastructure within Visual Assessment Unit #4 would be very limited in the full build-out condition and would generate a low level of nighttime changes due to illumination. The new at-grade passenger concourse would be illuminated similar to a modern office building rather than a highly illuminated event venue. The light levels would not be significant for users along Alameda Street or those observing from Father Serra Park site across Alameda Street to the west. Due to the reduced scale of the at-grade passenger concourse, the build alternative would have fewer visual impacts than the proposed project. Impacts are considered less than significant.

Visual Assessment Unit #5

Similar to the proposed project, the build alternative would include the construction of run-through track structures over US-101, along Commercial Street, and additional viaduct structures east of Center Street. The run-through track structure could introduce potential shadows on US-101 and Commercial Street given the time of year and time of day (interim and full build-out conditions); however, there are no residential land uses or other sensitive land uses that would be impacted by shadows from the run-through track structures at this location. Lighting would be installed within the soffit of the US-101 viaduct for safety purposes and would be designed in accordance with American National Standards Institute/Illuminating Engineering Society of North America Recommended Practice for Tunnel Lighting (Illuminating Engineering Society 2011). The additional tracks would result in an increased number of trains, which would increase lighting as lighted trains move through the area. There is currently a large amount of lighting in this visual assessment unit from transportation, commercial, and industrial uses, and the amount of lighting added by the run-through track infrastructure would not be substantially noticeable. The build alternative would have impacts similar to the proposed project and is not expected to result in additional daytime glare in this visual assessment unit.

Because Visual Assessment Unit #5 is within a developed urban area, and because additional lighting would be minor, impacts related to lighting would not be expected to substantially affect the surrounding area. The build alternative would have impacts similar to the proposed project. Impacts are considered less than significant.

Visual Assessment Unit #6

Views within Visual Assessment Unit #6 are limited primarily to the passenger concourse, rail yard tracks, and, to a lesser degree, the run-through structures. Similar to the proposed project, the build alternative would include the reconstruction and raising of the rail yard. The passenger concourse would include new lighting that would be on multiple levels throughout. The lighting from the passenger concourse would likely be visible from a distance, with this impact greater for the proposed project than the build alternative; however, there is a large amount of existing lighting in this visual assessment unit from transportation, commercial, and industrial uses, and the amount of lighting added by the tracks would not be substantially noticeable.

The increased number of trains would result in an increase in lighting as illuminated trains move through the area. Similar to the proposed project, additional platform lighting would also be required for the build alternative. The additional platform features, including platform canopies, could also result in additional daytime glare. The existing station currently has a large amount of lighting spilling out into this visual assessment unit, and the amount of lighting added by the project would not be substantially different. The build alternative would have impacts similar to the proposed project.

Although Visual Assessment Unit #6 is within a developed urban area, impacts related to lighting would not be expected to substantially affect the surrounding area, but, because the tracks and platforms would be elevated higher than under existing conditions, residents nearest to the rail yard would be potentially exposed to noticeably higher levels of light (perception due to the elevation change). The build alternative would have impacts similar to the proposed project. These impacts would be considered significant. Mitigation Measure AES-3 (described in Section 3.4, Aesthetics) would reduce operations-related light and glare-related impacts to a level less than significant.

Indirect Impacts

Similar to the proposed project, the build alternative would not result in any indirect impacts from lighting or glare; therefore, there would be no impact.

Air Quality and Global Climate Change

THRESHOLD 3.5-A	Conflict with or obstruct implementation of the applicable air quality plan

Direct Impacts – Construction

Similar to the proposed project, construction activities associated with the build alternative would be temporary in nature. With implementation of best available control measures identified in the SCAQMD Rule 403 for fugitive dust emissions from earth-moving and grading activities, construction activities in all construction phases would not conflict with or obstruct implementation of the regional AQMP. Therefore, no impact would occur.

Direct Impacts – Operations

Air Quality Management Plan

As identified in the analysis below for Threshold 3.5-B and Threshold 3.5-C, by providing increased station capacity for regional/intercity rail and accommodating the planned HSR system, similar to the proposed project, the build alternative would indirectly reduce the number of vehicles on the road and indirectly alter regional on-road motor vehicle travel. As discussed below, the build alternative would also indirectly contribute to other cumulative benefits for the region, including a regional reduction of GHG and vehicle miles traveled. Therefore, the increased emissions from rail operations would be offset by reductions in VMT in 2026, 2031, and 2040. For this reason, it is reasonable to conclude that the build alternative would not exceed SCAQMD's thresholds and would more than likely contribute to net reductions. In addition, upon implementation of Mitigation Measure AQ-3 (described in Section 3.5, Air Quality and Global Climate Change), the net increase in daily emissions would be reduced to below the SCAQMD thresholds. Therefore, as with the proposed project, the build alternative is consistent with the objectives of the AQMPs and would not affect implementation of the AQMPs.

Regional Transportation Plan/Sustainable Communities Strategy (2016) Consistency

Link US is included in the 2016 RTP/SCS as a financially constrained project. The proposed project is consistent with the applicable goals established as part of the 2016 RTP/SCS. The build alternative would result in impacts similar to the proposed project. A less than significant impact would occur.

Indirect Impacts

Similar to the proposed project, the build alternative would not result in indirect impacts that would conflict with or obstruct implementation of the applicable AQMP.

THRESHOLDS 3.5-B AND 3.5-C	B. Violate any air quality standard or contribute substantially to an existing or projected air quality violation C. 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 (including release emissions which exceed quantitative thresholds for O_3 precursors)

Direct Impacts – Construction

Similar to the proposed project, construction of the build alternative has the potential to create air quality impacts through the use of heavy-duty construction equipment, construction worker vehicle trips, material delivery trips, and heavy-duty haul truck trips generated from construction activities during each construction phase. In addition, earthwork activities would result in fugitive dust emissions and paving operations would release ROGs from off-gassing. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions.

Equipment Exhaust and Related Construction Activities. The construction equipment hours, haul truck trips, and employee commute trips required to build the build alternative were estimated April 2018. The construction emissions were calculated using the equipment list and U.S. EPA and SCAQMD emission rates. Under the build alternative, project-related construction activities are estimated to generate 1,535 daily trips (in passenger car equivalent), which is an increase of 892 daily trips compared to the proposed project. Therefore, compared to the proposed project, total exhaust emissions generated during the entire construction period are higher under the build alternative.

The total exhaust emissions generated during the entire construction period are shown in Table 5-2 for the build alternative. As shown in Table 5-2, the daily construction emissions would exceed the SCAQMD's NO_X, PM_{10}, and $PM_{2.5}$ thresholds. As described in Section 3.5, Air Quality and Global Climate Change, the proposed project would also exceed the SCAQMD's NO_X, PM_{10}, and $PM_{2.5}$ thresholds. Therefore, this impact is similar to the proposed project.

The annual construction emissions generated during the average construction year are listed in Table 5-3 for the build alternative. As stated above, compared to the proposed project, construction-related daily trips are higher under the build alternative. Therefore, compared to the proposed project, annual construction emissions generated during the average construction year are higher under the build alternative.

Table 5-2. Construction Emissions – Build Alternative with At-Grade Passenger Concourse						
Emission Source	**CO**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Off-Road Equipment (pounds)	313,419	48,753	318,352	21,206	16,012	95,487,445
On-Road Equipment (pounds)	20,577	1,671	77,800	8,339	3,376	33,557,056
Fugitive Dust (pounds)	—	—	—	450,000	94,500	—
Total(pounds)	333,996	50,424	396,151	479,545	113,888	129,044,501
Average Day (pounds/day)	**222.7**	**33.6**	**264.1**	**319.7**	**75.9**	**86,029.7**
SCAQMD Thresholds	**550**	**75**	**100**	**150**	**55**	**—**
Exceedance	**No**	**No**	**Yes**	**Yes**	**Yes**	**—**

Source: Appendix G of this EIR

Notes:

CO=carbon monoxide; CO_2e=carbon dioxide equivalents; NO_X=oxides of nitrogen; $PM_{2.5}$=particulate matter less than 2.5 microns; PM_{10}=particulate matter less than 10 microns; ROG=reactive organic gas; SCAQMD=South Coast Air Quality Management District

Table 5-3. Annual Construction Emissions – Build Alternative with At-Grade Passenger Concourse						
Emission Source	**CO (tons)**	**ROG (tons)**	**NO_X (tons)**	**PM_{10} (tons)**	**$PM_{2.5}$ (tons)**	**CO_2e (tons)**
Off-Road Equipment	156.7	24.4	159.2	10.6	8.0	47,743.7
On-Road Equipment	10.3	0.8	38.9	4.2	1.7	16,778.5
Fugitive Dust	—	—	—	225.0	47.3	—
Total	167.0	25.2	198.1	239.8	56.9	64,522.3
Average Year	**27.8**	**4.2**	**33.0**	**40.0**	**9.5**	**10,753.7**

Source: Appendix G of this EIR

Notes:

CO=carbon monoxide; CO_2e=carbon dioxide equivalents; NO_X=oxides of nitrogen; $PM_{2.5}$=particulate matter less than 2.5 microns; PM_{10}=particulate matter less than 10 microns; ROG=reactive organic gas

As with the proposed project, Mitigation Measures AQ-1 and AQ-2 (described in Section 3.5, Air Quality and Global Climate Change) are proposed to reduce construction emission-related impacts. Table 5-4 identifies the mitigated construction emission levels for the peak day for the build alternative. Table 5-5 identifies the annual mitigated construction emissions levels for the build alternative. Similar to the proposed project, construction emissions resulting from the build alternative would exceed the localized SCAQMD PM_{10} significance thresholds; therefore, impacts would remain significant and unavoidable. This impact is similar to the proposed project.

Table 5-4. Daily Construction Emissions After Mitigation – Build Alternative with At-Grade Concourse

Source	CO	ROG	NO_x	PM_{10}	$PM_{2.5}$	CO_2e
Off-Road Equipment (pounds)	70,192	19,008	49,296	6,763	3,370	58,849,564
On-Road Equipment (pounds)	20,577	1,671	77,800	8,339	3,376	33,557,056
Fugitive Dust (pounds)	—	—	—	225,000	47,250	—
Total (pounds)	90,769	20,679	127,096	240,102	53,996	92,406,620
Average Day (pounds/day)	60.5	13.8	84.7	160.1	36.0	61,604.4
SCAQMD Thresholds	550	75	100	150	55	—
Exceedance	No	No	No	Yes	No	—

Source: Appendix G of this EIR

Notes:
CO=carbon monoxide; CO_2e=carbon dioxide equivalents; NO_x=oxides of nitrogen; $PM_{2.5}$=particles of 2.5 micrometers and smaller; PM_{10}=particles of 10 micrometers and smaller; ROG=reactive organic gas; SCAQMD=South Coast Air Quality Management District

Table 5-5. Annual Construction Emissions After Mitigation – Build Alternative with At-Grade Concourse

Source	CO (tons)	ROG (tons)	NO_x (tons)	PM_{10} (tons)	$PM_{2.5}$ (tons)	CO_2e (tons)
Off-Road Equipment	35.1	9.5	24.6	3.4	1.7	29,424.8
On-Road Equipment	10.3	0.8	38.9	4.2	1.7	16,778.5
Fugitive Dust	—	—	—	112.5	23.6	—
Total	45.4	10.3	63.5	7.6	3.4	46,203.3
Average Year	7.6	1.7	10.6	1.3	0.6	7,700.5

Source: Appendix G of this EIR

Notes:
CO=carbon monoxide; CO_2e=carbon dioxide equivalents; NO_x=oxides of nitrogen; $PM_{2.5}$=particles of 2.5 micrometers and smaller; PM_{10}=particles of 10 micrometers and smaller; ROG=reactive organic gas

LST Analysis. Table 5-6 shows the construction-related emissions of CO, NO_x, PM_{10}, and $PM_{2.5}$ compared to the LSTs for Central Los Angeles area at a distance of 25 meter (m) for the build alternative. As required by the SCAQMD's LST Methodology, only the on-site construction emissions are included in Table 5-6. As identified in Table 3.5-11 of Section 3.5, Air Quality and Global Climate Change, the proposed project would exceed the LSTs for PM_{10} and $PM_{2.5}$. Compared to the proposed project, calculated emission rates for the build alternative would exceed the LSTs for NO_x, PM_{10}, and $PM_{2.5}$ (Table 5-6).

Based on the results of the construction air quality analysis, impacts would be significant. Mitigation Measures AQ-1 and AQ-2 would reduce the exhaust and fugitive dust emissions (CO, NO_x, ROG, PM_{10}, and $PM_{2.5}$) generated on-site during construction.

- Mitigation Measure AQ-1 (described in Section 3.5, Air Quality and Global Climate Change) requires compliance with the SCAQMD's Rule 403 (fugitive dust control measures) and would reduce on-site fugitive dust emissions by 50 percent.
- Mitigation Measure AQ-2 (described in Section 3.5, Air Quality and Global Climate Change) requires all on-site construction equipment to meet or exceed U.S. EPA's Tier 4 Final emission standards and for all off-road construction equipment to be fueled using 100 percent renewable diesel. This measure would reduce the on-site exhaust emissions by up to 95 percent when compared with the average construction fleet for the SCAB.

Table 5-6. Summary of On-Site Construction Emissions, Localized Significance – Build Alternative with At-Grade Passenger Concourse				
	Emissions			
Project Segment	CO	NO_X	PM_{10}	$PM_{2.5}$
Total (pounds)	314,447.4	322,241.9	471,622.5	110,681.2
Daily (pounds)	209.6	214.8	314.4	73.8
SCAQMD Thresholds	**1,861**	**161**	**16**	**8**
Exceeds Daily SCAQMD Threshold?	**No**	**Yes**	**Yes**	**Yes**

Notes:
CO=carbon monoxide; CO_2e=carbon dioxide equivalents; NO_X=oxides of nitrogen; $PM_{2.5}$=particulate matter less than 2.5 microns; PM_{10}=particulate matter less than 10 microns; ROG=reactive organic gas

Table 5-7 identifies the on-site construction emissions after implementing Mitigation Measures AQ-1 and AQ-2 for the build alternative. As shown, after implementation of mitigation, the calculated emissions rates for the on-site construction activities associated with the build alternative would continue to exceed the LSTs for PM_{10} and $PM_{2.5}$.

Similar to the proposed project, after implementation of proposed mitigation, construction-related emissions resulting from the build alternative would continue to exceed the localized SCAQMD significance thresholds; therefore, impacts would remain significant and unavoidable. As discussed in the *Link US Air Quality/Climate Change and Health Impact Assessment* (Appendix G of this EIR), particulate matter emissions can contribute to localized health impacts. Specific impacts include, but are not limited to, irritated eyes and respiratory tracts, decreased lung capacity, and increased cancer and mortality. While it is common practice to analyze the correlation between an individual facility's TAC emissions and expected localized human health impacts, a similar analysis is not feasible for criteria pollutants. Instead, potential human health impacts associated with criteria air pollutants are evaluated on a regional level based on the NAAQS established by the U.S. EPA. Available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual project's air emissions and specific human health impacts.

Attempting to identify a change in background pollutant concentrations that can be attributed to a single project would be a theoretical exercise. A single project's emissions constitute only a miniscule portion of the immense volume of air contained in a regional air basin. Additionally, background concentrations of regional pollutants are not temporally or geographically uniform throughout an air basin, and are constantly fluctuating based on meteorology and other environmental factors. An analysis attempting to take "tons per year" regional mass emissions data and translate that into precise pollutant concentrations, and project-specific health impacts, would not be practical or meaningful.

For the same reason, even if a model were developed to accurately ascertain local increases in concentrations of criteria pollutants, it would remain impossible to correlate that increase in concentration to a specific health impact. Such models are designed to determine regional, population-wide health

impacts, and are not accurate when applied at the local level. Please refer to Threshold 3.5-D for an evaluation of the build alternative's health risks associated with DPM emissions prepared pursuant to Office of Environmental Health Hazard Assessment guidelines.

Table 5-7. Summary of On-Site Construction Emissions After Mitigation, Localized Significance – Build Alternative with At-Grade Concourse

	Emissions			
	CO	NO_x	PM_{10}	$PM_{2.5}$
Total (pounds)	71,220.9	53,186.1	232,179.9	50,789.0
Daily (pounds)	47.5	35.5	154.8	33.9
SCAQMD Thresholds	1,861	161	16	8
Exceeds Daily SCAQMD Threshold?	No	No	Yes	Yes

Source: Appendix G of this EIR

Notes:
CO=carbon monoxide; NO_x=oxides of nitrogen; $PM_{2.5}$=particulate matter less than 2.5 microns; PM_{10}=particulate matter less than 10 microns; SCAQMD=South Coast Air Quality Management District

Direct Impacts – Operations

The build alternative would have similar air quality impacts during operations as the proposed project. Potential long-term operational air quality impacts would result from increased train activity, mobile source emissions associated with vehicular trips in the project study area, and stationary source emissions from on-site energy consumption. Mitigation Measure AQ-3 (described in Section 3.5, Air Quality and Global Climate Change) is proposed that would require the use of emerging technologies, including renewable diesel to reduce criteria pollutant emissions and diesel pollutant concentrations below a level that would not exceed SCAQMD thresholds. Implementation of Mitigation Measure AQ-3 would reduce the 2031 emissions by 51 percent and the 2040 emissions by 56 percent. As with the proposed project, upon implementation of Mitigation Measure AQ-3, the significant operational impacts associated with the build alternative would be reduced to a level less than significant.

Indirect Impacts

Similar to the proposed project, as stated previously, by providing increased station capacity, the build alternative would indirectly reduce the number of vehicles on the road and indirectly alter regional on-road motor vehicle travel, thereby reducing the VMT in the area. This means that the project's increase in emissions would be offset by reductions in VMT in 2040 (SCAG 2016). For this reason, it is reasonable to conclude that the build alternative would not exceed SCAQMD's thresholds, but would more than likely contribute to net reductions in 2040. Based on these results, the build alternative would experience an air quality benefit in 2031 that would incrementally increase as more trains (equipped with Tier 4 emission controls) come into operation in response to increased ridership. The build alternative would result in impacts similar to the proposed project. As with the proposed project, impacts are considered beneficial under the build alternative.

THRESHOLD 3.5-D	Expose sensitive receptors to substantial pollutant concentrations

Direct Impacts – Construction

Similar to the proposed project, construction of the build alternative would result in emissions of DPM from heavy-duty construction equipment and trucks operating in the project study area (e.g., water trucks and haul trucks).

For the purposes of conducting a cancer risk analysis, a 6-year exposure scenario, corresponding to the approximate construction period for the entire build alternative, was evaluated. The construction period is the same as the proposed project.

The DPM (PM_{10}) emissions for all emission sources during the construction period were compiled and added together to represent worst-case emission source for DPM. Due to the long-term nature of health risks, the modeling used the average day emissions instead of the peak day emissions. The equipment and vehicles included in this total are:

Build Alternative with At-Grade Concourse

- Off-road vehicles and equipment: 8.85 pounds/day PM_{10}
- Haul Trucks (Assume last mile on site): 0.13 pound/day PM_{10}
- Total DPM (PM_{10}): 8.98 pounds/day PM_{10}

These values for the build alternative are 3.07 lbs/day PM_{10} higher for off-road vehicles and equipment and 0.03 lb/day PM_{10} higher for haul trucks than the proposed project, with total DPM 3.1 pounds/day PM_{10} higher for the build alternative than the proposed project.

The DPM emissions from diesel-powered construction equipment and on-site diesel-powered trucks that would be used during construction are provided in the *Link US Air Quality Assessment Report and Health Risk Assessment* (Appendix G of this EIR). Total emissions of construction-related exhaust PM_{10}, as a surrogate for DPM, during the overall construction period were calculated and then converted to grams per second for use in the AERMOD model. Table 5-8 identifies the modeled annual average DPM concentration, and the associated cancer risks, at the closest land uses to the build alternative. As shown, the peak cancer risks during construction exceed the SCAQMD's threshold of 10 in 1 million. This impact is considered significant. The build alternative would generally result in higher cancer risks than the proposed project. However, as with the proposed project, Mitigation Measure AQ-2, which requires all off-road equipment to meet or exceed EPA's Tier 4 final emissions standards, would reduce this impact to a level less than significant.

Table 5-8. Modeled Cancer Risks – Build Alternative with At-Grade Passenger Concourse (per million)			
Receptor	**Land Use Type**	**Modeled Annual Concentrations (µg/m³)**	**Cancer Risks**
William Mead Homes	Residential	0.068	25.2
William Mead Homes	Residential	0.061	22.6
Mozaic Apartments	Residential	0.353	129.8
Mission Road Residences	Residential	0.024	9.0
Mission Road Residences	Residential	0.020	7.4
One Santa Fe Apartments	Residential	0.003	1.0
Utah Street Elementary School	School	0.014	0.2
Mendez High School	School	0.016	0.2
Ann Street Elementary School	School	0.093	1.4
Twin Towers Correctional Facility	Commercial Worker	0.247	2.7
Los Angeles County Men's Central Jail	Commercial Worker	0.156	1.7
Metro Offices	Commercial Worker	0.750	8.2
Terminal Annex	Commercial Worker	0.260	2.8

Source: Appendix G of this EIR

Notes:
µg/m³= micrograms per cubic meter; Metro=Los Angeles County Metropolitan Transportation Authority

Table 5-9 identifies the after mitigation modeled annual average DPM concentration, and the associated cancer risks, at the closest land uses to the footprint for the build alternative. The complete results are included in *Link US Air Quality Assessment Report and Health Risk Assessment* (Appendix G of this EIR). As shown, the peak cancer risks would continue to exceed the SCAQMD's threshold of 10 in 1 million at the Mozaic Apartments. The build alternative would generally result in higher after mitigation modeled peak cancer risks than the proposed project. This impact would be considered significant.

Table 5-9. Modeled Cancer Risks – Build Alternative with At-Grade Passenger Concourse - Mitigated (per million)

Receptor	Land Use Type	Modeled Annual Concentrations (µg/m³)	Cancer Risks
William Mead Homes	Residential	0.007	2.6
William Mead Homes	Residential	0.006	2.4
Mozaic Apartments	Residential	0.037	13.6
Mission Road Residences	Residential	0.003	0.9
Mission Road Residences	Residential	0.002	0.8
One Santa Fe Apartments	Residential	0.000	0.1
Utah Street Elementary School	School	0.001	0.0
Mendez High School	School	0.002	0.0
Ann Street Elementary School	School	0.010	0.2
Twin Towers Correctional Facility	Commercial Worker	0.026	0.3
Los Angeles Men's County Central Jail	Commercial Worker	0.016	0.2
Metro Offices	Commercial Worker	0.079	0.9
Terminal Annex	Commercial Worker	0.027	0.3

Source: Appendix G of this EIR

Notes:
µg/m³= micrograms per cubic meter; Metro=Los Angeles County Metropolitan Transportation Authority

Table 5-10 identifies the maximum chronic hazard index for the maximally exposed individual under the unmitigated and mitigated conditions. Compared to the proposed project, the unmitigated chronic hazard index would be 0.047 higher and the mitigated chronic hazard index would be 0.01 higher for the build alternative. A chronic hazard index is calculated by dividing the annual average concentration of a toxic pollutant by the chronic reference exposure level for that pollutant. For DPM the chronic reference exposure level is 5.0. As shown, the chronic hazard index at this location is lower than the SCAQMD significance threshold of less than 1.0.

Table 5-10. Chronic Hazard Index		
	Chronic Hazard Index	
Receptor	Unmitigated	Mitigated
Maximally Exposed Individual – Build Alternative with At-Grade Passenger Concourse	0.071	0.007

Source: Appendix G of this EIR

As detailed in Section 3.5, Air Quality and Global Climate Change, the anticipated cancer risk associated with construction of the proposed project would be below the SCAQMD's 10 in a million threshold, and impacts would be reduced to a level less than significant with implementation of mitigation (Mitigation Measures AQ-1 and AQ-2). Compared to the proposed project, the cancer risk at the Mozaic Apartments would remain above the threshold at 13.6 in 1 million after implementation of mitigation. Under the build alternative, impacts would remain significant and unavoidable. The build alternative would result in greater impacts than the proposed project due to the increased amount of truck trips associated with a greater level of excavation expected from the build alternative.

Naturally Occurring Asbestos. As previously indicated, the project study area is not located in a region of Los Angeles County that has been identified as containing serpentine or ultramafic rock. Therefore, there is a negligible potential that construction workers and nearby sensitive receptors would be exposed to naturally occurring asbestos during project construction. The build alternative would result in impacts similar to the proposed project. Therefore, no impact would occur.

Direct Impacts – Operations

Similar to the proposed project, implementation of the build alternative would alter the flow of rail operations within the project study area. In addition, the build alternative would facilitate an increase in rail operations in the future by increasing the current train capacity. Due to the flexibility provided by the new run-through tracks, the future daily operations on a track-by-track basis are unknown. Therefore, for the purpose of the DPM risk analysis, the project study area was modeled as point sources for idling within the station and as line sources for the rail operations within the project study area.

Section 7.2 of the *Link US Air Quality/Climate Change and Health Risk Assessment* (Appendix G of this EIR) lists the peak cancer risks at 13 locations within the project study area for the Existing, 2026 no project, 2026 with project, 2031 no project, 2031 with project, 2040 no project, and 2040 with project condition, respectively. Peak cancer risks for the proposed project would be similar for the build alternative.

Section 7.2 of the *Link US Air Quality/Climate Change and Health Risk Assessment* (Appendix G of this EIR), shows the maximum chronic hazard index for the maximally exposed individual for the existing, 2026, 2031, and 2040 conditions. These values would be similar for the build alternative. The chronic hazard index is lower than the SCAQMD significance threshold of less than 1.0.

In summary, when compared to the no project conditions, the sensitive land uses within the project study area would be exposed to an increased cancer risk of more than 10 in 1 million. Similar to the proposed project, when compared to the existing (2016) conditions, the build alternative would result in lower health risks at the majority of the land uses in the project area. As with the proposed project, upon implementation of Mitigation Measure AQ-3 (described in Section 3.5, Air Quality and Global Climate Change), the significant operational impacts associated with the build alternative would be reduced to a level less than significant.

Indirect Impacts

As with the proposed project, the build alternative would generate an air quality benefit in 2031 that would incrementally increase as more trains (equipped with Tier 4 emission controls) come into operation in response to increased ridership. The build alternative would result in impacts similar to the proposed project. Impacts are considered beneficial.

THRESHOLD 3.5-E	Create objectionable odors affecting a substantial number of people

Direct Impacts – Construction

Similar to the proposed project, construction of the build alternative could result in emission of odors from construction equipment and vehicles (e.g., diesel exhaust). It is anticipated that these odors would be short-term, limited in extent at any given time, and distributed throughout the project study area during the duration of construction, and, therefore, would not affect a substantial number of individuals. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Similar to the proposed project, the build alternative does not include any uses identified by the SCAQMD as being associated with odors; therefore, it is anticipated that the build alternative would not produce objectionable odors. During operation, emissions from train idling (i.e., diesel exhaust and VOCs) would result in objectionable odors. However, in the opening year, the improved efficiency and reduced idling would reduce the potential for odor generation. In 2040, the reduced idling, improved efficiency, and improved engine technologies would minimize any increase in odor generation. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, no impact would occur associated with the build alternative related to objectionable odors.

THRESHOLD 3.5-F	Generate greenhouse gas emissions, either directly or indirectly, that may have an adverse effect on the environment

Direct Impacts – Construction and Operations

Similar to the proposed project, construction GHG emissions for the build alternative include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during all construction phases.

Table 5-3 lists the annual GHG emissions that would be generated during construction of the build alternative. Up to 64,520 tons of CO_2e would be generated during the 6-year construction period for the build alternative with an at-grade concourse; this is equivalent to 58,520 MT of CO_2e. Amortized over a 30-year period, the approximate life of the project, the yearly contribution to GHG from the construction of the build alternative with an at-grade concourse would be 1,951 MT of CO_2e per year. Compared to the proposed project, the build alternative would generate up to 22,950 more tons of CO_2e during the 6-year construction period and would result in an annual contribution to GHG from construction of 694 more MT of CO_2e per year.

Activities associated with operation of the build alternative that could directly or indirectly contribute to the generation of GHG emissions are the same as the proposed project and would include: gas, electricity, and water use; solid waste disposal; motor vehicle use; and train emissions. The *Link US Air Quality/Climate Change and Health Risk Assessment* (Appendix G of this EIR), provides a description of how these activities would contribute to the generation of GHG emissions. Similar to the proposed project, the projected GHG emissions for the build alternative would be the summation of the individual sources identified above.

As identified in Table 5-11, the total annual GHG emissions from construction and operation of the build alternative would be approximately 11,925 MT of CO_2e per year, which exceeds the SCAQMD's 3,000 MT CO_2e interim threshold for commercial, residential, and mixed use projects. Compared to the proposed project and as stated above, the build alternative would result in an annual contribution to GHG from construction of 694 more MT of CO_2e per year.

Table 5-11. Greenhouse Gas Emissions – Build Alternative with At-Grade Passenger Concourse (2040)

Source	Pollutant Emissions (MT/year)					
	Bio-CO_2	NBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Construction Emissions Amortized over 30 Years	0.0	1,949.0	1,949.0	0.1	0.0	1,950.7
Operational Emissions						
Area Sources	0.0	0.0	0.0	0.0	0.0	0.0
Energy Sources	0.0	4,272.0	4,272.0	0.11	0.023	4,281.7
Mobile Sources	0.0	843.2	843.2	0.03	0.0	844.0
Waste Sources	127.2	0.0	127.2	7.51	0.0	315.0
Water Usage	15.1	485.5	500.6	1.56	0.039	551.3
Total Operational Emissions	142.3	5,600.6	5,742.9	9.22	0.06	5,992.0
Rail Emissions						
No Project	0.0	6,168.2	6,168.2	0.0	0.0	6,168.2
Build Alternative	0.0	10,149.0	10,149.0	0.0	0.0	10,149.0
Net Increase	0.0	3,980.8	3,980.8	0.0	0.0	3,980.8
Total Operational Emissions	142.3	9,581.4	9,723.7	9.2	0.1	9,972.8
Total Emissions with Construction	142.3	11,530.4	11,672.7	9.3	0.1	11,923.5

Source: Appendix G of this EIR

Notes:
CO_2=carbon dioxide; CO_2e=carbon dioxide equivalents; MT=metric tons; N_2O=nitrous oxide

As discussed above, similar to the proposed project, this analysis for the build alternative evaluates the localized idling emissions associated with the regional/intercity rail operations within LAUS. Therefore, this analysis does not evaluate the system-wide change in rail emissions or the associated change in regional VMT.

In 2015, Metro emitted 457,400 MT of CO_2e from its operations. By removing private vehicles from the road, the agency also prevents GHG emissions from entering the atmosphere. During the same period, Metro saved approximately 464,493 MT of CO_2e from being emitted by displacing vehicle driving. As a result, Metro's net GHG emissions in 2015 were a net reduction of 7,093 MT of CO_2e. The addition of 5,992 MT of CO_2e from the operation of LAUS would increase Metro's operation emissions to approximately 463,400 MT. Therefore, Metro would continue to offset over 100 percent of its operating GHG emissions through regional VMT reductions.

Metrolink is currently developing the SCORE Program, which will upgrade the regional rail system to meet the current and future needs of the traveling public. By adding tracks and grade separations and upgrading signal systems across the entire Metrolink system, trains will operate more frequently and reliably, making regional travel by train easier and creating an even more appealing alternative to driving. Link US is the centerpiece of the SCORE Program, providing critical capacity increases that are required to realize over 26 percent of the significant reductions in Basin-wide VMT and GHG emissions that will result from the SCORE Program. Between 2026 and 2078, Link US's estimated contribution to the VMT and GHG reductions are 898 million miles and 13.5 million MT of CO_2e, respectively. The long term VMT and GHG reductions would offset the build alternative's annual GHG emissions of 11,925 MT of CO_2e.

Further, and from a regional perspective, by providing increased station capacity for regional/intercity rail, Metro rail and bus, and accommodation of the planned HSR system, similar to the proposed project, the build alternative would indirectly reduce the number of vehicles on the road and indirectly alter regional on-road motor vehicle travel. Therefore, similar to the proposed project, the build alternative is a key component to achieving the 2016 RTP/SCS GHG reduction goals for the SCAG region, as listed in the 2016 RTP/SCS, would achieve GHG emission reductions of up to 35 percent for Los Angeles County in 2040 and up to 24 percent for the SCAG region as a whole. In this context, the reductions in GHGs in 2040, as facilitated by the build alternative, would be considered a beneficial impact. The build alternative would result in impacts similar to the proposed project.

Although not required for the build alternative's climate change impacts, Mitigation Measures AQ-2 and AQ-3 (described in Section 3.5, Air Quality and Global Climate Change) would reduce construction and operational GHG emissions. Table 5-12 identifies the mitigated GHG emissions for the build alternative. Similar to the proposed project, with the addition of the SCORE Program benefits, the GHG emissions for the build alternative would be reduced to less than zero.

Table 5-12. Cumulative Greenhouse Gas Emissions – Build Alternative with At-Grade Passenger Concourse (2040) - Mitigated

Source	Pollutant Emissions (MT/year)					
	Bio-CO_2	NBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Construction Emissions Amortized over 30 Years	0.0	1,395.1	1,395.1	0.1	0.0	1,396.9
Operational Emissions						
Area Sources	0.0	0.0	0.0	0.0	0.0	0.0
Energy Sources	0.0	4,272.0	4,272.0	0.11	0.023	4,281.7
Mobile Sources	0.0	843.2	843.2	0.03	0.0	844.0
Waste Sources	127.2	0.0	127.2	7.51	0.0	315.0
Water Usage	15.1	485.5	500.6	1.56	0.039	551.3

Table 5-12. Cumulative Greenhouse Gas Emissions – Build Alternative with At-Grade Passenger Concourse (2040) - Mitigated						
	Pollutant Emissions (MT/year)					
Source	Bio-CO_2	NBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Total Operational Emissions	142.3	5,600.6	5,742.9	9.22	0.06	5,992.0
Rail Emissions						
No Project	0.0	6,168.2	6,168.2	0.0	0.0	6,168.2
Build Alternative	0.0	6,082.9	6,082.9	0.0	0.0	6,082.9
Net Increase	0.0	-85.3	-85.3	0.0	0.0	-85.3
Total Operational Emissions	142.3	5,515.3	5,657.6	9.2	0.1	5,906.7
Total Emissions with Construction	142.3	6,910.4	7,052.7	9.3	0.1	7,303.6

Source: Appendix G of this EIR

Notes:
CO_2=carbon dioxide; CO_2e=carbon dioxide equivalents; MT=metric tons; N_2O=nitrous oxide

Indirect Impacts

Similar to the proposed project, implementation of the build alternative would aid in the reduction of GHG emissions through regional VMT reductions. Therefore, no impact would occur.

THRESHOLD 3.5-G	Conflict with applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

Direct Impacts – Construction and Operations

SB 375 calls on SCAG and other MPO's to integrate land use, housing, and transportation planning efforts to achieve the SB 375 regional GHG reduction targets, consistent with the transportation goals of AB 32. The adopted 2016 RTP/SCS multimodal strategy aims to reduce per capita VMT over the next 25 years, with regional passenger rail serving as a means to achieve VMT reductions. Similar to the proposed project, the build alternative would assist Metro and the State of California in meeting the greenhouse gas emission reduction targets as mandated under AB 32 and SB 375. Implementation of the build alternative would allow Metro to accommodate regional growth through increased and more frequent access to alternative modes of transit for local communities.

SCAQMD has adopted numeric mass emissions thresholds as a method to close the gap between emissions reductions from land-use driven sectors that would occur at the state level (including Pavley, low carbon fuel standard, and Renewable Portfolio Standard, among others) and the emission reductions necessary from land use development projects that have a lower carbon intensity within the region,

consistent with the goals of AB 32. Future year project-related emissions would be below SCAQMD numeric thresholds that were adopted to help achieve the reduction goals of AB 32. Thus, similar to the proposed project, the build alternative would not conflict with AB 32. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, implementation of the build alternative would aid in the reduction of GHG emissions through regional VMT reductions. No impact would occur.

Noise and Vibration

THRESHOLDS 3.6-A AND 3.6-C	A. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project C. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies

Direct Impacts – Operations

2026 Condition

In the 2026 condition, as with the proposed project, regional/intercity rail service would operate at increased levels of service, as described in the *Link US Rail Planning Technical Memorandum* (Appendix B of this EIR).

Noise levels would be the same as the proposed project. As shown in Table 8-1 of the *Link US Noise and Vibration Study* (Appendix H of this EIR), noise levels would range from 45 to 67 dBA L_{dn} at Category 2 land uses (i.e., places where people sleep) and 57 to 67 dBA L_{eq} at Category 3 land uses (i.e., a daycare and the park/athletic field near William Mead Homes). In 2026, moderate impacts would occur at 24 multifamily residences (all at William Mead Homes). Similar to the proposed project, no moderate or severe impacts would occur at the Mozaic Apartments, Los Angeles County Men's Central Jail and the Twin Towers Correctional Facility, Metro Senior Housing, One Santa Fe Apartments, or the daycare and park/athletic field near William Mead Homes.

As with the proposed project, impacts are considered less than significant. The FRA and FTA manuals include provisions for consideration of mitigation for moderate impacts. Similar to the proposed project, although implementation of Mitigation Measure NV-1 (described in Section 3.6, Noise and Vibration) is not required for the build alternative in the 2026 condition because impacts are considered less than significant. Metro may construct the sound wall in accordance with Mitigation Measure NV-1 earlier than 2031 to reduce construction-related noise impacts and/or moderate operational noise impacts from increased train improvements that may occur as early as 2026.

Figure 5-20 depicts the noise contours associated with the moderate impact areas at William Mead Homes for the proposed project in the 2026 condition; the noise contours would be the same for the build alternative.

2031 Condition

In the 2031 condition, as with the proposed project, regional/intercity rail service would operate at increased levels as described in the *Link US Rail Planning Technical Memorandum* (Appendix B of this EIR).

Noise levels are predicted to range from 47 to 75 dBA L_{dn} at Category 2 land uses and 63 to 73 dBA L_{eq} at Category 3 land uses. The build alternative would result in a greater number of moderate impacts than the proposed project (3 additional sensitive receptors at Mozaic Apartments East Building). As shown in Table 5-13, the build alternative would result in moderate impacts on 76 multifamily residences (40 William Mead Homes units and 36 Mozaic Apartment units). The same number of severe impacts would occur as the proposed project; including 40 multifamily residences (all William Mead Homes units) and the park/athletic field near William Mead Homes.

- For William Mead Homes, severe operational noise impacts in the 2031 condition would be significant. Similar to the proposed project, Mitigation Measure NV-1 would reduce operational noise impacts for the build alternative to a level less than significant.
- For Mozaic Apartments, although exterior noise levels at the Mozaic Apartments would result in moderate noise impact at 36 units, mitigation measures are not proposed for consideration for the same reasons as the proposed project described in Section 8.1.2 of the *Link US Noise and Vibration Study* (Appendix H of this EIR). Impacts are considered less than significant.
- For the Los Angeles County Men's Central Jail and the Twin Towers Correctional Facility, interior noise levels at the facilities would be 45 dBA L_{dn} or lower for the same reasons as the proposed project described in in Section 8.1.2 of the *Link US Noise and Vibration Study* (Appendix H of this EIR). Impacts are considered less than significant.
- For the Metro Senior Housing and One Santa Fe Apartments, similar to the proposed project, no moderate or severe impacts would occur for the build alternative. Impacts are considered less than significant.

Figure 5-21 depicts the noise contours associated with the moderate and severe noise impact areas at William Mead Homes for the build alternative in the 2031 condition.

Figure 5-20. Noise Impact Areas at William Mead Homes – Proposed Project and Build Alternative (2026 Condition)

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Table 5-13. Operational Noise Levels (2031 Condition)

Noise Sensitive Area Description	Land Use Category	Number of Uses	Existing Noise Exposure (dBA)	Build Alternative		
				Range of Sound Levels (dBA)	Number of Severe Impacts	Number of Moderate Impacts
William Mead Homes	2	415	69	59-75	40	40
	3	2	66	63-73	1	0
Metro Senior Housing	2	123	60	59	0	0
Los Angeles County Men's Central Jail	2	4,000a	73	62	0	0
Twin Towers Correctional Facility	2	9,500a	73	58	0	0
Mozaic Apartments East Building	2	176	67	53-66	0	36
Mozaic Apartments West Building	2	96	67	50-56	0	0
One Santa Fe Apartments/Studios	2	438	71	47-63	0	0
Project Total	2	14,748a	60–73	47-75	40	76
	3	2	66	63-73	1	0

Source: Appendix H of this EIR

Notes:

a Approximately 4,000 inmates are housed at the Los Angeles County Men's Central Jail and 9,500 inmates are housed at the Twin Towers Correctional Facilities. Neither correctional facility provides outdoor use areas for prisoners; therefore only interior noise levels are of concern. The prisons are built out of concrete and have thick windows to keep prisoners inside; therefore, exterior sound levels would be 20 dBA lower than those calculated at the exterior of each facility

dBA=A-weighted decibel; L_{dn}=day-night average sound level; L_{eq}=equivalent noise level; Metro=Los Angeles County Metropolitan Transportation Authority

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Figure 5-21. Noise Impact Areas at William Mead Homes – Build Alternative (2031 Condition)

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2040 Condition

In the 2040 condition, similar to the proposed project, additional regional/intercity rail train movements through LAUS are anticipated to occur, and the planned HSR system would be in operation as described in the *Link US Rail Planning Technical Memorandum* (Appendix B of this EIR).

Noise levels would be nearly the same predicted range at Category 2 land uses (48 to 75 dBA L_{dn}) and at Category 3 land uses (56 to 73 dBA L_{eq}) as the proposed project. As shown in Table 5-14, in the 2040 condition, the build alternative would result in moderate impacts on 66 multifamily residential units (24 William Mead Homes units and 42 Mozaic Apartment units). The build alternative would result in moderate impacts at 17 more noise-sensitive receptors (8 additional receptors at William Mead Homes and 9 additional receptors at Mozaic Apartments) than the proposed project. No severe impacts would occur at any multifamily residential units (compared to 24 receptors at William Mead Homes and 6 receptors at Mozaic Apartments for the proposed project).

At William Mead Homes, no severe impacts would occur as a result of implementing the build alternative because electrified HSR trains (that produce less noise than regional/intercity trains) would operate on the dedicated track alignment that is located closer to residential units than the proposed project. Although trains would operate closer to residential units at William Mead Homes, the HSR trains produce less noise, and for this reason, only moderate impacts would occur. At the rail yard near the Mozaic Apartments, the build alternative alignment is the same as the proposed project, and would include electrified HSR trains on tracks 3 through 6. For this reason, sound levels for the build alternative are only slightly lower at the Mozaic Apartment units nearest to LAUS (e.g., 67 dBA Ldn for the build alternative vs. 68 dBA Ldn for the proposed project) and as a result no severe impacts would occur. Concentrating higher numbers of regional/intercity rail trains on tracks further away (e.g., Tracks 7 through 12) in combination with electrified HSR trains does result in greater moderate impacts at the Mozaic Apartments for the build alternative compared to the proposed project. So while there are a greater total number of impacts at the Mozaic Apartments than the proposed project, sound level would be less impactful for the reasons stated above, and no severe impacts at the Mozaic Apartments for the build alternative would occur.

A severe impact would still occur at the park/athletic field near William Mead Homes, similar to the proposed project.

- For William Mead Homes, severe operational noise impacts on the park/athletic field at William Mead Homes would still occur in the 2040 condition under the build alternative. These impacts are considered significant. Similar to the proposed project, Mitigation Measure NV-1 (described in Section 3.6, Noise and Vibration) is proposed to reduce operational noise impacts for the build alternative to a level less than significant.
- For Mozaic Apartments, interior noise levels at the Mozaic Apartments are assumed to be 45 dBA L_{dn} or lower for the same reasons as described for the proposed project. Impacts are considered less than significant.

- For the Los Angeles County Men's Central Jail and the Twin Towers Correctional Facility, interior noise levels at the facilities would be 45 dBA L_{dn} or lower for the same reasons described for the proposed project. Impacts are considered less than significant.
- For the Metro Senior Housing and One Santa Fe Apartments, similar to the proposed project, no moderate or severe impacts were identified. Impacts are considered less than significant.

Figure 5-22 depicts the noise contours associated with moderate and severe noise impact areas at William Mead Homes for the build alternative in the 2040 condition.

Table 5-14. Operational Noise Levels (2040 Condition)

Noise Sensitive Area Description	Land Use Category	Number of Uses	Existing Noise Exposure (dBA)	Build Alternative		
				Range of Sound Levels (dBA)	Number of Severe Impacts	Number of Moderate Impacts
William Mead Homes	2	415	69	53-75	0	24
	3	2	66	56-73	1	0
Metro Senior Housing	2	123	60	54	0	0
Los Angeles County Men's Central Jail	2	4,000a	73	62	0	0
Twin Towers Correctional Facility	2	9,500a	73	59	0	0
Mozaic Apartments East Building	2	176	67	53-67	0	42
Mozaic Apartments West Building	2	96	67	50-56	0	0
One Santa Fe Apartments/Studios	2	438	71	48-64	0	0
Project Total	2	14,748a	60–73	48-75	0	66
	3	2	66	56-73	1	0

Notes:
dBA=A-weighted decibel

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Figure 5-22. Noise Impact Areas at William Mead Homes – Build Alternative (2040 Condition)

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Indirect Impacts

Similar to the proposed project, implementation of the build alternative could encourage residential and commercial infill development around LAUS that could indirectly result in the placement of new noise sources near noise-sensitive land uses; however, it is unknown if and when such land use development would occur. Additionally, new development would be required to comply with City of Los Angeles Municipal Code, Section 91.1207.14.2. In this context, as with the proposed project, impacts are considered less than significant.

THRESHOLD 3.6-B	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels

Direct Impacts – Construction

Similar to the proposed project, construction of the build alternative would result in temporary vibration from use of heavy equipment and machinery. Building demolition would also be required in limited circumstances along Commercial Street. The vibration levels from construction activities associated with the build alternative would be the same as the proposed project because the same types of construction equipment and methods are anticipated. Construction-based groundborne vibration and groundborne noise levels are summarized in Table 8-7 of the *Link US Noise and Vibration Study* (Appendix H of this EIR), and these levels would be the same for the build alternative.

Within approximately 50 feet of a pile driving activity, there is potential for vibration-related structural damage. The vibratory roller is not predicted to damage structures because the vibratory roller would not be used within 25 feet of a sensitive structure, a distance that eliminates concern of structural damage. Similar to the proposed project, from an annoyance perspective, impact pile driving associated with the build alternative would be characterized as a frequent source of vibration, as there would more than 70 pile strikes (i.e., events) per day. Mozaic Apartments are the nearest sensitive land uses and are within 300 feet from pile driving activities (if this construction technique is utilized). Additionally, use of the vibratory roller may occur near some sensitive land uses continuously over the course of several days and would be considered a frequent vibration source during construction. The vibratory roller would be used in closer proximity to sensitive areas, such as William Mead Homes (Category 2 land use). Per the FTA manual, the frequent impact threshold for Category 2 land uses is 72 VdB (FTA 2018).

Vibration from construction of the build alternative could be considered an annoyance, but would not cause damage to residential land uses situated within approximately 300 feet of an impact pile driver and 140 feet of the vibratory roller; however, pile driving activities would be restricted from occurring within 50 feet of a sensitive land use and therefore impacts from a damage perspective would occur. Nevertheless, because construction would occur within 300 feet of an impact driver and 140 feet of the vibratory roller from sensitive land uses, a severe impact would occur related to William Mead Homes and Mozaic Apartments, from an annoyance perspective. This is considered a significant impact. As with the proposed project, Mitigation Measure NV-2 (described in Section 3.6, Noise and Vibration) is proposed to reduce actual

construction-related vibration impacts, while Mitigation Measure NV-3 (described in Section 3.6, Noise and Vibration) is proposed to reduce the annoyances caused by construction-related vibration impacts under the build alternative. Upon implementation of proposed mitigation, impacts would be reduced to a level less than significant.

Direct Impacts – Operations

As with the proposed project, vibration sensitive land uses and structures near the build alternative would be limited to those Category 2 uses within 200 feet of the project alignment (i.e., the screening distance per FTA guidance). Category 2 uses within 200 feet of the alignment include the first row of buildings at William Mead Homes and a portion of the front row building at the Mozaic Apartment complex.

2026 Condition

Similar to the proposed project, in the 2026 condition, although additional train movements would occur, there would be no changes to track speeds or the track alignment near William Mead Homes and, consequently, there would be no changes to vibration levels associated with the build alternative. In Segments 2 and 3 of the project study area, the track alignment would change slightly to accommodate Platform 4 modifications, a temporary run-through track ramp, and new run-through tracks crossing US-101. As a result, vibration levels would change slightly at the front row building of the Mozaic Apartment complex with regional/intercity rail trains operating at 10 miles per hour on Tracks 3 and 4.

2031 Condition

Under the build alternative, near William Mead Homes, regional/intercity rail trains would operate as close as 50 feet (as compared to 100 feet for the proposed project) from buildings at speeds of 20 miles per hour.

2040 Condition

Under the build alternative, near William Mead Homes, the planned HSR system would operate as close as 50 feet from the these buildings (compared to regional/intercity trains and HSR trains operating on shared tracks 100 feet from these buildings for the proposed project), and regional/intercity trains would operate as close as 115 feet away from the residential units at the Mozaic Apartment complex (compared to Gold Line trains as close as 40 feet, HSR trains as close as 75 feet, and regional/intercity rail trains as close as 185 feet for the proposed project).

Indirect Impacts

Similar to the proposed project, operation of the build alternative is unlikely to result in indirect impacts related to groundborne vibration that would result in vibration-related annoyance or physical damage to adjacent structures. Although land use changes (and intensification) are expected with or without the project, these changes would need to be approved by local jurisdictions and would be subject to environmental review. This would include any new development proposed around LAUS and along

Commercial Street that might otherwise be sensitive to operational sources of vibration. Impacts of the build alternative would be similar to the proposed project. Impacts are considered less than significant.

THRESHOLD 3.6-D	A substantial temporary or periodic increase in ambient noise levels existing without the project

Direct Impacts – Construction

Similar to the proposed project, construction of the build alternative would take place in phases over the course of approximately 6 years. Construction activities associated with the build alternative would result in temporary periods of relatively high noise levels. The noise levels from construction activities would be similar for the build alternative. Table 8-5 of the *Link US Noise and Vibration Study* (Appendix H of this EIR) provides estimates of peak day noise levels for each construction phase and project segment.

During construction, impacts would occur at Category 2 land uses at distances of up to approximately 250 feet under daytime (7:00 AM to 10:00 PM) impact criteria (i.e., 80 dBA L_{eq}) and approximately 300 feet under nighttime (10:00 PM to 7:00 AM) impact criteria (i.e., 70 dBA L_{eq}). It is anticipated that some construction work would take place during nighttime hours to utilize the efficiencies of working during off-peak times of the day and meet Metro's desired construction completion timeframe. These impacts would be similar under the build alternative.

Category 2 land uses (i.e., residential) exist within the respective daytime and nighttime impact distances (250 feet and 300 feet) and include William Mead Homes and Mozaic Apartments; therefore, the construction noise impact is considered a significant impact. As with the proposed project, Mitigation Measure NV-2 (described in Section 3.6, Noise and Vibration) is proposed to reduce construction-related noise impacts. Mitigation Measure NV-3 (described in Section 3.6, Noise and Vibration) also includes provisions to reduce the annoyances caused by construction-related noise impacts (in addition to vibration impacts). As with the proposed project, although construction-related noise impacts would be reduced through implementation of Mitigation Measures NV-2 and NV-3, impacts under the build alternative would remain significant and unavoidable.

Direct Impacts – Operations

An evaluation of potential increases in ambient noise levels associated with the build alternative is addressed under Threshold 3.6-A and 3.6-C above.

Indirect Impacts

Indirect impacts related to construction induced noise levels is addressed under Threshold 3.6-B, above.

Biological Resources

THRESHOLD 3.7-A	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

Direct Impacts – Construction

Special-Status Bats

Similar to the proposed project, if construction occurs during the bat maternity season (May 1 through August 31), there is a potential for direct impacts (e.g., maternity site abandonment) and indirect impacts (e.g., noise, vibration, dust, night lighting, and human encroachment) to occur on western mastiff bats as a result of construction activities in the vicinity of bridges and on western yellow bats as a result of removal of naturally occurring or planted (ornamental) trees, including palm trees. These impacts would be considered significant. The build alternative would result in an impact similar to the proposed project. As with the proposed project, Mitigation Measure BIO-1 (described in Section 3.7, Biological Resources) is proposed to reduce impacts to a level less than significant.

Migratory Birds

Several migratory bird species were observed in the BSA, and suitable habitat that would support breeding migratory birds is present in the BSA. Similar to the proposed project, construction of the track and bridge improvements at Vignes Street and Cesar Chavez Avenue, safety improvements at the Main Street Bridge crossing of the Los Angeles River, and other construction activities may interfere with MBTA-covered species during the nesting season. Impacts on MBTA-covered species during the nesting season would be considered significant. The build alternative would result in an impact similar to the proposed project. As with the proposed project, Mitigation Measure BIO-2 (described in Section 3.7, Biological Resources) is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Special-Status Bats

Similar to the proposed project, operations of the build alternative would involve increased train traffic and periodic maintenance of Metro's ROW. Based on the limited availability of suitable habitat for special-status bat species in the project area, the corresponding impacts of operations on each species (i.e., increased risk of being struck by a train) are not anticipated to substantially reduce the regional population size of these species. The build alternative would result in an impact similar to the proposed project. .Impacts are considered less than significant.

Migratory Birds

Similar to the proposed project, due to the urban nature of the project site, any birds utilizing the site for breeding during operations of the build alternative are expected to be urban-adapted. Therefore, the

corresponding impacts of operations on these species (e.g., increased risk of being struck by a train) are not anticipated to substantially reduce their regional population sizes. The build alternative would result in an impact similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Special-Status Bats

Similar to the proposed project, operation of the build alternative would involve increased train traffic and periodic maintenance in the railroad ROW. Based on the limited availability of suitable habitat for special-status bat species to occur in the project area, the corresponding impacts of operations on each species (i.e., increased risk of a maternity roost being disturbed by maintenance activities or vibration, noise and dust resulting from increased train traffic) are not anticipated to substantially reduce the regional population size of these species. The build alternative would result in an impact similar to the proposed project. Impacts are considered less than significant.

Migratory Birds

Similar to the proposed project, temporary, indirect impacts that may affect MBTA-covered species during operations include increased noise, vibration, dust, night lighting, and human encroachment. However, due to the urban nature of the project site, any birds utilizing the site for breeding during project operations are expected to be urban-adapted. The corresponding impacts of operations on these species (e.g., increased risk of being struck by a train) are not anticipated to substantially reduce their regional population sizes. The build alternative would result in an impact similar to the proposed project. Impacts are considered less than significant.

THRESHOLD 3.7-D	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

Direct Impacts – Construction

Similar to the proposed project, construction of the build alternative would not obstruct local north-south wildlife movement that may be occurring via the Los Angeles River, or local east-west movements that may be occurring via the Arroyo Seco. The build alternative would result in an impact similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, operations of the build alternative would involve increased train traffic and periodic maintenance of Metro's ROW. However, operations would not obstruct local north-south wildlife movement that may be occurring via the Los Angeles River, or local east-west movements that may be occurring via the Arroyo Seco. The build alternative would result in an impact similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, construction and operations of the build alternative would occur over 0.8 mile away from Arroyo Seco; therefore, it is not expected to impact any potential wildlife movement occurring there. Noise and light from construction and operations could inhibit what limited wildlife movement occurs in the Los Angeles River. Given the unvegetated, concrete-lined nature of the river and the urban nature of the surroundings, any wildlife using the river is expected to be urban-adapted. The corresponding indirect impacts on these species from construction and operations are not anticipated to substantially reduce their regional population sizes or interfere substantially with their movement. The build alternative would result in an impact similar to the proposed project. Impacts are considered less than significant.

THRESHOLD 3.7-E	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

Direct Impacts – Construction

Similar to the proposed project, construction may require the removal or disturbance of one or more native tree species (western sycamore or other species observed during reconnaissance surveys) that are considered a protected tree under the City of Los Angeles Tree Ordinance. Removal of protected trees would conflict with local ordinances and policies protecting biological resources. This is considered a significant impact. The build alternative would result in an impact similar to the proposed project. As with the proposed project, Mitigation Measure BIO-3 (described in Section 3.7, Biological Resources) is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, operations would not require the removal of additional trees. However, future maintenance activities would be required throughout the duration of operations, and limited pruning or vegetation clearing would be required to keep the railroad corridor free of debris. Vegetation maintenance activities would be limited to the railroad ROW and would not extend into adjacent sensitive habitats. The build alternative would result in an impact similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, construction could result in indirect impacts affecting the root systems of adjacent native trees. Trenching, grading, soil compaction, and the placement of fill or impervious surfaces within the driplines of protected trees could lead to root damage ultimately resulting in death of the tree. This impact would be considered significant. The build alternative would result in an impact similar to the proposed project. As with the proposed project, Mitigation Measure BIO-3 (described in Section 3.7, Biological Resources) is proposed to reduce impacts to a level less than significant.

Hydrology and Water Quality

THRESHOLD 3.8-A	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)

Direct Impacts – Construction

Similar to the proposed project, it is assumed that groundwater dewatering would be required during construction. These groundwater dewatering activities would be considered temporary and would only result in extraction of water from the upper aquifer, which is not currently used for potable uses. Hence, production rates or well levels would not be affected. The build alternative would result in an impact similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, operation of the build alternative would not require groundwater extraction for consumptive use and, therefore, would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, the build alternative would be constructed in accordance with standard engineering practices. Therefore, no indirect effect related to groundwater would occur.

THRESHOLD 3.8-B	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site

Direct Impacts – Construction

Similar to the proposed project, construction would require substantial amounts of grading and excavation in order to reconfigure existing drainage patterns and ensure that connections to existing drainage infrastructure are maintained and/or improved. Any increases in sediment load from the construction area could lead to alterations in drainage patterns due to accumulations of sediment in downstream areas, if not properly managed. This would be considered a significant impact. The build alternative would result in an impact similar to the proposed project. As with the proposed project, Mitigation Measure HWQ-1 (described in Section 3.8, Hydrology and Water Quality) is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, the build alternative would result in alterations to the existing drainage patterns in the project study area that could result in localized flooding if not properly managed. This impact would be considered significant. Post construction BMPs would be required to attenuate flows prior to entering the drainage conveyance system. Because Caltrans, Metro, and CHSRA have jurisdiction over various areas of runoff from the US-101, and other portions of the project study area, each agency is anticipated to implement different post-construction BMPs based on applicable regulations and each agency would retain partial responsibility for long-term maintenance of BMPs. The build alternative would result in an impact similar to the proposed project. As with the proposed project, Mitigation Measures HWQ-2, HWQ-3, HWQ-4, and HWQ-5 (described in Section 3.8, Hydrology and Water Quality) are proposed to reduce impacts to a level less than significant.

Indirect Impacts

Similar to the proposed project, no indirect impacts related to alterations in drainage patterns would occur because all project-related infrastructure would be constructed in accordance with standard engineering practices. Therefore, no impact would occur.

THRESHOLD 3.8-C	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff

Direct Impacts – Construction

Similar to the proposed project, excavated soil would be exposed during construction and there would be increased potential for soil erosion. Excavated soils could be contaminated and the contractor would be required to follow protocol consistent with the *Link US Phase I Environmental Site Assessment* (HDR 2016a) or forthcoming Phase II Environmental Site Assessment for disposition of the soils. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via stormwater runoff into receiving waters. Similar to the proposed project, construction of the safety improvements at the Main Street at-grade public crossing may require some minor grading, excavation, and other site preparation activities. If not properly managed, sediments, petroleum products, and concrete-related waste may be spilled or leaked and have the potential to be transported via stormwater into the Los Angeles River. This is considered a significant impact. The build alternative would result in an impact similar to the proposed project. As with the proposed project, Mitigation Measure HWQ-1 (described in Section 3.8, Hydrology and Water Quality) is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, the build alternative would not result in an increase in impervious surface within Caltrans ROW and the runoff associated with the US-101 overhead viaduct would not exceed the

capacity of the tributary Caltrans system below (WKE 2016). However, as with the proposed project, the build alternative would increase impervious surfaces outside of Caltrans ROW by 3.5 acres, which is expected to result in an overall increase in storm runoff, thereby increasing the volume of flow and exceed the capacity of some on-site drainage systems. This is considered a significant impact. The build alternative would result in an impact similar to the proposed project. The build alternative would include capture and use BMPs, bioretention BMPs, and structural BMPs that would provide permanent stormwater treatment. In addition, the build alternative would incorporate the same post-construction BMPs into the design as the proposed project. Because Caltrans, Metro, and CHSRA have jurisdiction over various areas of runoff from the US-101, and other portions of the project study area, each agency is anticipated to implement different post-construction BMPs based on applicable regulations and each agency would retain partial responsibility for long-term maintenance of BMPs. As with the proposed project, Mitigation Measures HWQ-2, HWQ-3, HWQ-4, and HWQ-5 (described in Section 3.8, Hydrology and Water Quality) are proposed to reduce impacts to a level less than significant.

Indirect Impacts

Similar to the proposed project, components would be constructed in accordance with standard engineering practices. Therefore, no indirect effect related to exceeding the capacity of existing or planned stormwater drainage systems or providing substantial additional sources of polluted runoff is anticipated. No impact would occur.

THRESHOLD 3.8-D	Expose people or structures to a risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

Direct Impacts – Construction

Similar to the proposed project, the study area for the build alternative is not located within a 100-year or 500-year floodplain; therefore, construction activities would not be subject to impacts associated with flooding. Although the build alternative would improve and modify drainage within the project study area to maintain existing drainage flow patterns and to accommodate for increased flow volumes, it would not increase or negatively impact the project study area's vulnerability to levee and dam failure. Therefore, the build alternative would not increase the exposure of people or structures to a significant risk of loss, injury, or death related to flooding or inundation beyond existing conditions. The build alternative would result in an impact similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, the build alternative would not impact any floodplain areas or require the need to update the flood maps, given that it would occur outside of the flood zones. The proposed grand canopy, platforms, and other project facilities would be designed and constructed in accordance with standard engineering practices to ensure that the build alternative would not expose people or structures to a risk of loss, injury, or death involving flooding. The build alternative would result in an impact similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, components would be constructed in accordance with standard engineering practices. Therefore, no indirect impacts would occur.

THRESHOLD 3.8-E and 3.8-G	E. Violate any water quality standards or waste discharge requirements G. Otherwise substantially degrade water quality

Direct Impacts – Construction

Similar to the proposed project, construction of the various build alternative project components, including the safety improvements at the Main Street at-grade public crossing, could result in a significant impact on water quality and exceed water discharge requirements if runoff is not properly managed. In addition, although the project study area is relatively flat and the potential for soil erosion is considered to be low, stormwater runoff could result in short-term erosion within areas of exposed or stockpiled soils. Furthermore, the compaction of soils by heavy equipment may reduce the infiltration capacity of soils and increase runoff and erosion potential. If uncontrolled, soil materials could block storm drainage channels and cause downstream sedimentation.

Removal of existing track and ballast, including creosote ties, rails, wire, and metal materials, may also expose excavated dirt contaminated with lead, copper, chromium, and other contaminants typical of a railroad yard. Surface runoff exposure to soils containing these contaminants could reduce water quality of the Los Angeles River. Similarly, tainted soil may be subject to erosion from storm events. Improper handling of concrete mix could be carried away by runoff and also result in degradation of surface water.

Groundwater may also be encountered during construction, which may be contaminated. If not addressed properly, the extracted groundwater could substantially degrade surface water. This is considered a significant impact.

The build alternative would result in impacts on water quality similar to the proposed project. As with the proposed project, Mitigation Measures HWQ-1, HWQ-6, and HWQ-7 (described in Section 3.8, Hydrology and Water Quality) are proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, minor amounts of oil and grease would originate from train cars during operation of the build alternative, which could discharge oil, grease, and other chemical pollutants into existing drainage systems. This is considered a significant impact. Post construction BMPs are required to treat the runoff prior to discharge to the local storm drain system through capture and use, bioretention, and structural BMPs. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measures HWQ-2, HWQ-3, HWQ-4, and HWQ-5 (described in Section 3.8, Hydrology and Water Quality) are proposed to reduce impacts to a level less than significant.

Indirect Impacts

Similar to the proposed project, the build alternative could result in on- and off-site discharges that could indirectly affect downstream surface waters by increasing scour and/or sedimentation. This is considered a significant impact if not properly managed. During operations, the build alternative would result in acquisition of parcels with current manufacturing and industrial processes permitted by the IGP. These processes include treating stormwater discharges that include pollutants. Significant impacts would occur if these processes are not continued, because industrial stormwater may not be treated and could negatively impact the storm drain system. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measure HWQ-8 (described in Section 3.8, Hydrology and Water Quality) is proposed to reduce impacts to a level less than significant.

THRESHOLD 3.8-F	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site

Direct Impacts – Construction

Similar to the proposed project, construction of the build alternative would occur over a multiyear period with multiple phases of construction. Over the course of construction, activities would extend over multiple rainy seasons; however, the construction schedule is anticipated to be phased to minimize the amount of work during the rainy season. During construction, it may be necessary for the contractor to re-route drainage around one or more construction areas, which, in turn, may concentrate runoff and/or direct it off-site, thereby resulting in substantial erosion on adjacent properties if not properly managed. This is considered a significant impact. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measure HWQ-1 (described in Section 3.8, Hydrology and Water Quality) is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, the build alternative would result in an increase of impervious surfaces in the project study area by 3.5 acres (non-Caltrans ROW). This could cause a decrease in infiltration and increase the volume and velocity of runoff during a storm event that transports pollutants to receiving waters and may lead to downstream erosion and increases in suspended particles and sediment, resulting in increased turbidity. This is considered a significant impact. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measures HWQ-2, HWQ-3, HWQ-4, and HWQ-5 (described in Section 3.8, Hydrology and Water Quality) are proposed to reduce impacts to a level less than significant.

Indirect Impacts

Similar to the proposed project, components would be constructed in accordance with standard engineering practices. Therefore, no indirect effect related to erosion and sedimentation would occur.

Geology and Soils

THRESHOLD 3.9-A	Expose people or structures to potential substantial adverse impacts, including the risk of loss, injury, or death involving: ii. Strong seismic ground shaking iii. Seismic-related ground failure, including liquefaction

Direct Impacts – Construction

Similar to the proposed project, during construction, the project site would be subject to the same level of ground motion in the event of an earthquake. However, standard safety protocols in accordance with OSHA requirements would be implemented during construction to prevent risk of loss, injury, or death if seismic activity is encountered during construction. For this reason, construction of the build alternative would not exacerbate existing hazards related to seismic ground shaking. Therefore, impacts are considered less than significant.

Direct Impacts – Operations

Once operational, the probability that the project-related infrastructure would be subject to strong seismic shaking is considered high due to the proximity of known active faults in the region. Similar to the proposed project, the project-related infrastructure for the build alternative would be designed in accordance with appropriate industry standards, including established engineering and construction practices and methods; therefore, project implementation would not exacerbate existing hazards posed by seismic shaking because an improved structural response to an earthquake is anticipated to occur when compared to existing conditions. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

In general, liquefaction is expected at the project site due to the soil conditions and depth of groundwater. Based on the preliminary liquefaction analysis performed for the project, liquefaction is expected between depths of about 20 and 30 feet bgs in Segment 1:Throat Segment and Segment 2: Concourse Segment of the project study area. Based on these considerations, this is considered a significant impact. The build alternative would result in impacts similar to the proposed project. Mitigation Measure GEO-1 (described in Section 3.9, Geology and Soils) is proposed to reduce liquefaction-related hazards to a level less than significant.

THRESHOLD 3.9-B	Result in substantial soil erosion or the loss of topsoil

Direct Impacts – Construction

Similar to the proposed project, the majority of the project study area for the build alternative consists of disturbed areas with existing rail tracks, developed properties, and the rail yard. The LAUS campus is located on disturbed area and fill. The potential for impacts related to soil erosion and the loss of topsoil is extremely low due to the urban developed nature of the project study area. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, during operation of the build alternative there would not be a substantial amount of exposed surfaces which could be subjected to accelerated soil erosion. The throat segment and run-through segment would still include exposed surfaces; however, the placement of ballast and other soil protection materials would provide stabilization to prevent erosion. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

No indirect impacts that would generate additional erosion or loss of topsoil are anticipated due to the disturbed nature of the project study area. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

THRESHOLD 3.9-C	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 an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse

Direct Impacts – Construction

Similar to the proposed project, the potential for subsidence due to groundwater pumping and/or extraction of oil in the surrounding area near LAUS associated with construction of the build alternative is considered low. In addition, the project site is not located within an area prone to landslides. Based on the consolidation test results, along with the moisture and density and soil types identified during the preliminary geotechnical investigation, hydrocollapse is not anticipated to have a substantial impact on project improvements. However, due to the presence of compressible layers within the upper 30 feet in Segment 2: Concourse Segment of the project study area, settlement, both long-term and immediate, is anticipated to occur for those improvements proposed to be founded on shallow foundations. In addition, liquefaction is expected due to the soil conditions and depth of groundwater. This is considered a significant impact. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measure GEO-1 (described in Section 3.9, Geology and Soils) is proposed to reduce liquefaction-related hazards to a level less than significant.

Direct Impacts – Operations

As indicated above, settlement and liquefaction is anticipated to occur within the upper 30 feet of the soils in the project study area. In addition, the project infrastructure for the build alternative would be designed and constructed in accordance with standard engineering practices. After construction is complete, the likelihood that the build alternative would be affected either by subsidence due to the settlement of compressible layers and/or by liquefaction induced settlement is low. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, based upon the preliminary geotechnical evaluation, the potential for lateral spreading at the site for the build alternative is considered low. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

THRESHOLD 3.9-D	Be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), creating substantial risk to life or property

Direct Impacts – Construction

Similar to the proposed project, expansion potential is considered to be low for the build alternative based on the material encountered within the top 5 feet and plasticity index test results during the preliminary geotechnical investigation. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, after construction is complete and the build alternative is operational, the likelihood that the build alternative would be affected by expansive soils is low. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, no indirect impacts related to expansive soils would occur for the build alternative.

Hazards and Hazardous Materials

THRESHOLD 3.10-A	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials

Direct Impacts – Construction

Transport, Use, and Disposal of Hazardous Materials

Similar to the proposed project, the use of hazardous materials and substances would be required during construction and hazardous wastes would be generated during operation of construction equipment. The use of these materials, including their routine transport and disposal, carries the potential for an accidental release into the local environment, which could pose a hazard to construction employees, the public, and the environment depending on the magnitude of the spill and relative hazard of the material released. Although typical construction management practices limit and often eliminate the risk of such accidental releases, the extent and duration of project construction presents a possible risk to the environment through the routine transport of hazardous materials.

Transport, Use, and Disposal of Contaminated Soil and Groundwater

Similar to the proposed project, contaminated soil and groundwater are expected to be encountered during soil excavations and dewatering activities, which would require specialized handling, treatment, and eventual off-site transport. The build alternative would require substantially more excavation compared to the proposed project. Therefore, the build alternative would result in a greater potential for encountering contaminated soils and/or groundwater during soil excavations.

Potential hazards generated by the routine transport, use, and disposal of hazardous materials, contaminated soils, and/or contaminated groundwater during construction is considered a significant impact, if not adequately managed. The build alternative would result in greater impacts than the proposed project due to the greater amount of excavation. However, as with the proposed project, Mitigation Measure HAZ-1 (described in Section 3.10, Hazards and Hazardous Materials) is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, the build alternative would involve an increase in the number of trains arriving and departing LAUS, although operational activities and practices involving routine transport, use, and storage of potentially hazardous materials would remain similar to existing conditions. Future operations at LAUS would involve routine transport of hazardous materials and wastes, such as gasoline, brake fluids, and coolants, although heavy maintenance activities would continue off-site at existing maintenance facilities, such as Metrolink's CMF or Taylor Facility, located north of LAUS and the Amtrak maintenance facility located south of LAUS. These facilities already in operation would continue to provide for safe storage, containment, and disposal of chemicals and hazardous materials during operations,

including waste materials. The build alternative would result in impacts similar to the proposed project. Based on the existing local regulatory framework, impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, implementation of the build alternative would facilitate an increase in the number of train movements beginning as early as 2026 and the initiation of HSR service as early as 2033. Considering LAUS is limited to passenger operations, the potential for increased freight movements and increased hazardous materials transport is beyond Metro's authority and subject to private railway carriers. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

THRESHOLD 3.10-B	Create a hazard to the public or the environment through reasonably foreseeable upset or accidental conditions involving the release of hazardous materials into the environment

Direct Impacts – Construction

Recognized Environmental Condition Sites

Similar to the proposed project, the close proximity of the build alternative to existing RECs could result in potential exposure to contaminated soils and/or groundwater or migration of contaminants (e.g., by groundwater). The build alternative includes two new lead tracks and a new retaining wall through the throat segment that would extend outside of the existing railroad ROW, encroaching into a portion of the William Mead Homes property. Compared to the proposed project, the build alternative would have a greater potential to encounter contaminated soil and/or groundwater associated with the William Mead Homes site (Map Code 31). Therefore, the build alternative would result in greater impacts than the proposed project. This is considered a significant impact.

Soil Vapor Migration

Construction of subterranean structures for the build alternative could encounter soils contaminated with petroleum and petroleum products, which could release vapor encroachment conditions during excavations or tunneling. The build alternative would require substantially more excavation compared to the proposed project. Therefore, the build alternative would result in greater potential for encountering soils contaminated with petroleum and petroleum products during soil excavations. This is considered a significant impact.

Asbestos and Lead

Similar to the proposed project, demolition of structures containing ACMs and LBPs could cause their release into the environment. The build alternative would result in impacts similar to the proposed project because the same amount of buildings would be demolished. The accidental release of ACMs or lead into the environment is considered a significant impact.

As described above, an accidental release of hazardous materials could pose a hazard both to construction employees, the public, and the environment depending on the magnitude and relative hazard of the material released. Although typical construction management practices limit the potential for such accidental releases, these practices do not eliminate their risk. The build alternative would result in greater impacts than the proposed project. However, as with the proposed project, Mitigation Measures HAZ-1 through HAZ-8 (described in Section 3.10, Hazards and Hazardous Materials) are proposed to reduce impacts related to the release of hazardous materials to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, future operations at LAUS would involve the use of hazardous materials and wastes, such as gasoline, brake fluids, and coolants that could be subject to accidental releases. The handling of such materials would be subject to federal (40 CFR 239-282), state (22 CCR 4.5), and local health and safety requirements (those specified by Metro, railroad operators, or property owners on a case-by-case basis). In general, they require that these materials not be released to the environment or disposed of as general refuse. Collection in proper containers and disposal at approved facilities are required.

Metro would be required to comply with appropriate regulatory agency standards designed to avoid hazardous waste releases. These permits would require preparation of a HMBP, per California's Health and Safety Code, that would include provisions for safe storage, containment, and disposal of chemicals and hazardous materials during operations, including waste materials. The build alternative would result in impacts similar to the proposed project. Given that the operations would be similar to existing conditions and the HMBP would be subject to approval by the applicable regulatory agency, impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, implementation of the build alternative would facilitate an increase in the number of regional/intercity train movements as early as 2026 and would accommodate future HSR service. Considering LAUS is limited to passenger operations, the potential for additional freight movements and increased hazardous materials release is beyond the scope of Metro's authority. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

THRESHOLD 3.10-C	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school

Direct Impacts – Construction

Similar to the proposed project, during construction of the build alternative there would be use of commercially available hazardous materials, such as gasoline, brake fluids, coolants, and paints, within 0.25 mile of Ann Street Elementary School and Felicitas and Gonzalo Mendez Senior High School. Standard

equipment maintenance and good housekeeping practices during construction would minimize the risk of any release; however, if any release of these substances did occur, releases are anticipated to be localized and unlikely to pose a risk to these two educational institutions. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

In addition, demolition of existing structures and the existing railroad track infrastructure would require the operation of multiple construction vehicles within the build alternative footprint over the duration of construction. Based on the, the DPM emissions associated with the short-term construction activities would not result in an increased cancer risk or exceed the SCAQMD's 10 in a million threshold at any school within 0.25 mile of the build alternative footprint. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

An indicator of the project's regional operational impact is the net influence on emissions in the project study area and the region, relative to the emissions for the same year under the no project scenario. Similar to the proposed project, rail emissions were estimated for the project based on daily train movements, fuel consumption, travel distance, idling time, and DPM emission factor. Each of these factors is discussed in detail in the *Link US Air Quality and Global Climate Change Technical Report* (Appendix G of this EIR), including the 2040 peak cancer risks within the project study area. The cancer risks at the residential land uses were calculated using a 30-year exposure while the school and office uses were calculated using 9- and 25-year exposures, respectively. The project-related increase in cancer risk would exceed the SCAQMD's threshold of 10 in 1 million. This is considered a significant impact. The build alternative would result in similar impacts as the proposed project. However, as with the proposed project, Mitigation Measure AQ-3 (described in Section 3.5, Air Quality and Global Climate Change) is proposed to reduce impacts related to health risks to a level less than significant.

Indirect Impacts

Similar to the proposed project, construction of the build alternative would involve the transport and disposal of soil or other media contaminated with hazardous materials. This could be an indirect impact through the accidental release of these hazardous materials to nearby schools. The accidental release of ACMs or lead into the environment would also represent a risk. The build alternative would require substantially more excavation compared to the proposed project and would, therefore result in greater impacts than the proposed project. Although compliance with existing laws and regulations regarding transport and disposal of hazardous materials would minimize potential risks, this is considered a significant impact. However, as with the proposed project, Mitigation Measures HAZ-1 through HAZ-8 (described in Section 3.10, Hazards and Hazardous Materials) would reduce impacts to a level less than significant.

THRESHOLD 3.10-D	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and as a result, would create an adverse hazard to the public or the environment

Direct Impacts – Construction

Recognized Environmental Condition Sites

Similar to the proposed project, 35 REC sites (14 RECs, 16 HRECs, and 5 CRECs) have been identified with a Moderate to High risk ranking because they have the potential to affect the environment as a result of excavation activities on acquired parcels where project-related construction activities would occur. Some of the parcels identified in Table 3.10-2 would either be acquired or used for temporary construction activities and staging where no ground disturbance would occur. The close proximity of these existing RECs to project-related construction activities would carry the potential for encountering contaminated soil and/or groundwater. Construction activities could also cause the migration of contaminants through changes in groundwater flow. This is considered a significant impact. The build alternative includes two new lead tracks and a new retaining wall through the throat segment that would extend outside of the existing railroad ROW, encroaching into a portion of the William Mead Homes property. Compared to the proposed project, the build alternative would result in a greater potential to encounter contaminated soil and/or groundwater associated with the William Mead Homes site (Map Code 31). Therefore, the build alternative would result in greater impacts than the proposed project. As with the proposed project, Mitigation Measure HAZ-2 (described in Section 3.10, Hazards and Hazardous Materials) is proposed to reduce impacts to a level less than significant.

Land Use Covenants

Similar to the proposed project, the build alternative (e.g., railroad ROW) would not conflict with land use restrictions of the seven sites identified in the *Link US Phase I Environmental Site Assessment* (Appendix M of this EIR); however, these sites have deed restrictions that include soil management requirements. The build alternative would result in impacts similar to the proposed project. This is considered a significant impact. As with the proposed project, Mitigation Measures HAZ-2 and HAZ-3 (described in Section 3.10, Hazards and Hazardous Materials) are proposed to reduce impacts to a level less than significant.

Based on the uncertainties regarding the level of clean-up or remediation on the land use restricted sites, the potential to encounter undocumented sources of contamination exists and a significant impact could occur. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measures HAZ-2 through HAZ-6 (described in Section 3.10, Hazards and Hazardous Materials) are proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, after construction is complete and the build alternative is operational, the identified REC sites would not be disturbed and, therefore, would not require remediation or coordination

with the governing agency. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, prior to construction, any REC sites located within or adjacent to the project study area identified as a Moderate or High risk would be further analyzed in a Phase II ESA (Mitigation Measure HAZ-2). However, the REC sites adjacent to or in the vicinity of the build alternative could be indirectly affected during construction. In the event hazardous materials migrate into the project study area while construction is occurring, there would be an indirect impact resulting from construction. The build alternative would result in impacts similar to the proposed project. Although compliance with federal, state, and local regulations would reduce these indirect impacts, this is considered a significant impact. As with the proposed project, Mitigation Measure HAZ-6 (described in Section 3.10, Hazards and Hazardous Materials) is proposed to reduce impacts to a level less than significant.

THRESHOLD 3.10-E	Impair implementation of an adopted emergency response plan or emergency evacuation plan

Direct Impacts – Construction

The build alternative would impact the same roadways and designated disaster routes as the proposed project. Construction activities in the areas of these streets, especially US-101, could interfere with emergency response and access. As discussed in the *Link US Traffic Impact Assessment* (Appendix E of this EIR), construction activities would generate additional construction traffic on US-101 and result in temporary closure of portions of US-101. US-101 would be closed temporarily during the night (10:00 PM to 6:00 AM) in one direction at a time during construction of the bridge superstructure. These night closures are expected to last up to 20-consecutive days. The southbound ramps at Commercial Street would also be partially or fully restricted for extended periods during construction of the US-101 viaduct over the existing on- and off ramps. The build alternative would result in impacts similar to the proposed project. Any disruption to an evacuation route is considered a significant impact. As with the proposed project, Mitigation Measure TR-1 is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, after construction is complete and the build alternative is operational, no changes would be made to the identified evacuation routes and minimal project-related increased delays are expected at intersections within the traffic study area. Internal roadway reconfiguration and associated modifications to fire lanes and access roads would not significantly affect emergency access, primarily because the West Plaza would be accessible to emergency service providers using the existing fire lane network. Emergency access would be maintained from Patsaouras Plaza, which would provide emergency and fire lane access to the eastern side of the station. All modifications made would be coordinated and approved by the Fire Marshal to verify the safest access is provided for emergency service providers. Upon completion of construction, no changes would be made to the evacuation routes as identified by the City.

The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, the build alternative would operate in accordance with applicable agency requirements for passenger rail operations. Impacts are considered less than significant.

Utilities/Service Systems

THRESHOLDS 3.11-A AND 3.11-E	A. Exceed wastewater treatment requirements of the applicable RWQCB E. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments

Direct Impacts – Construction

Similar to the proposed project, construction activities associated with the build alternative would not result in new substantial discharges of wastewater to the City's sanitary sewer collection system. However, if groundwater dewatering is required, discharge to the City's sanitary sewer collection system may be the only option for disposal. As provided in the *Link US Water Quality Assessment Report* (Appendix J of this EIR), shallow groundwater in the project study area is likely impacted by one or more sources of contaminations associated with legacy land uses and associated pollutants. As a result, pre-treatment of any dewatering effluent may be required prior to discharging into the City's sanitary sewer collection system.

Similar to the proposed project, compliance of with the Dewatering Permit would minimize the potential for any discharges that could otherwise exceed the City's existing wastewater treatment requirements. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, the at-grade passenger concourse would include new transit-serving retail amenities and office/commercial space. This level of development is anticipated within local planning documents and included in the maximum permitted floor area within the ADSP (for LAUS). Likewise, the wastewater generated by the build alternative in the full build-out condition would be of domestic quality and, if required, would be subject to pre-treatment requirements (e.g., fats, oils, and grease) per the City's Industrial Waste Control Ordinance. Furthermore, the Hyperion Treatment Plant is the closest treatment plant to the build alternative. It is currently operating at an average of 275 mgd and is designed to treat 450 mgd in dry months and 800 mgd in peak wet weather flows. Therefore, adequate capacity exists in this facility to accommodate the build alternative's increase in wastewater generation. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

No indirect impacts related to wastewater would occur with implementation of the build alternative.

THRESHOLD 3.11-B	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts

Direct Impacts – Construction

Similar to the proposed project, during construction of each phase of the build alternative water would be required for various activities, such as controlling dust, compacting soil, and mixing concrete. The build alternative would continue to be serviced by existing LADWP water lines. Construction of the build alternative would require the use of locally-available water supplies, which are distributed by LADWP. The build alternative's water demand would be short-term and temporary and would not require the construction of new water facilities or expansion of existing facilities. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Similar to the proposed project, as provided in the *Link US Cultural Resources Impact Assessment Report* (Appendix N of this EIR), construction of the build alternative, including utility replacements and/or relocations, would have the potential to encounter documented and undocumented cultural resources. Some of these resources could be historically significant. This is considered a significant impact. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measure HIST-5 (described in Section 3.12, Cultural Resources) is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, the build alternative would continue to be serviced by existing water and wastewater facilities. The build alternative would result in an increased demand for water during operations associated with fire flow and domestic flow demands within the new passenger concourse and on the platforms. However, based on preliminary coordination with utility providers, there is sufficient water capacity to serve the additional water needs of the project. Therefore, no new water facilities or expansion of existing facilities would be needed. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

The demand for wastewater services would also increase during operations. However, based on preliminary coordination with utility providers, the Hyperion Treatment Plant has adequate capacity to treat the project's wastewater. Therefore, the build alternative would not require construction of any new wastewater treatment facilities or expansion of existing facilities. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

New development around LAUS in the future could indirectly impact water and sanitary sewer facilities in the project study area. However, similar to the proposed project, new development would be subject to the City's permitting and entitlement processes, as applicable, and would include coordination with LASAN, Los Angeles BOE, and LADWP. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

THRESHOLD 3.11-C	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts

Direct Impacts – Construction

Based on hydraulic modeling as summarized in the *Link US Preliminary Low Impact Development Report* (Appendix K of this EIR), no change in the current pipeline sizing is required. Similar to the proposed project, reconfiguration or realignment of the storm drains would be conducted in coordination with the Los Angeles BOE. Where possible, existing storm drains would be protected-in-place through the use of casings, concrete blankets, or other industry approved structural protection methods. A concrete slab is proposed to protect the Los Angeles County storm drain system near Mission Tower. All work would occur within an urbanized area.

As provided in the *Link US Cultural Resources Impact Assessment Report* (Appendix N of this EIR), similar to the proposed project, construction of the build alternative, including storm drain replacements and/or relocations, would have the potential to encounter documented and undocumented cultural resources. Some of these resources could be historically significant. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measure HIST-5 (described in Section 3.12, Cultural Resources) is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, the proposed drainage system for the build alternative would be designed in accordance with the City of Los Angeles' Storm Drainage Design standards, and all other applicable standards for post-construction BMPs to avoid potential for significant impacts on the environment. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

New development around LAUS in the future could indirectly impact storm drain facilities in the project study area. However, similar to the proposed project, new development would be subject to the City's permitting and entitlement processes, as applicable, and would include coordination with the LABOE. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

THRESHOLD 3.11-D	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed

Direct Impacts – Construction

Similar to the proposed project, construction of the build alternative would require the use of locally-available water supplies, which are distributed throughout the City by LADWP. During construction of each phase, water would be required for various activities such as controlling dust, compacting soil, and mixing concrete. In the absence of recycled water supplies, potable water would be required for construction purposes. The average water use during construction is estimated at 63,000 gallons per day or 70.5 AFY (HDR 2016c). Based on this anticipated water use and in the context of the supplies available to LADWP between 2018 and 2024 (up to 156,800 AFY), sufficient water supplies are expected to be available for construction of the build alternative. Additionally, Metro would implement its General Management Water Use and Conservation Policy that outlines guidance for potable water during construction. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, throughout operation of the build alternative potable water would be provided by LADWP, which supplies LAUS' existing water demands. With the completion of the new passenger concourse in the full build-out condition, new plumbing fixtures would include lavatories, drinking fountains, break room sinks, and service sinks. The total water demand from these uses is estimated to be up to 310 gpm or approximately 500 AFY in 2040 (HDR 2016d). Train washing operations would be conducted off-site at a separate facility similar to existing conditions, and this type of water use is not included in this estimate.

To support the policies listed in Metro's Water Action Plan, the planning, design, and construction of the build alternative would address minimum requirements for water conservation. Based on the projected water demand of 500 AFY in 2040, this total demand represents a small fraction of the total supplies available. Additionally, the build alternative is consistent with existing and planned land uses and would not alter projects contained in LADWP's UWMP (LADWP 2015). Likewise, the build alternative would not produce demands that exceed the thresholds in SB 610 for a water supply assessment. For these reasons, the build alternative would have sufficient water supplies available from existing LADWP entitlements and resources, and no new or expanded entitlements would be required. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Water demand from new development that may occur within the project study area (separate from the project) would be subject to the requirements of SB 610 and considered at the time separate and individual entitlement applications are filed in the future. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

THRESHOLDS 3.11-F AND 3.11-G	F. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs G. Comply with federal, state, and local statutes and regulations related to solid waste

Direct Impacts – Construction

Similar to the proposed project, construction of the build alternative would generate construction waste from the removal of existing infrastructure, (e.g., roadways, trackwork, concrete, etc.), including concrete, brick, asphalt, railway basalt, and other construction waste. As a standard construction practice, the contractor would be required to segregate these materials prior to disposal at a certified recycling facility where materials would be properly recycled or reused, where appropriate. Additionally, the contractor would be required to adhere to federal, state, and local regulations for solid waste disposal, including those identified in the City's SWIRP.

During construction, the project contractor would be required to comply with SB 1374 and the Los Angeles C&D Waste Recycling Ordinance regarding concrete, asphalt, scrap metal, wood, and gypsum/wallboard. The Los Angeles C&D Waste Recycling Ordinance requires that all mixed C&D waste generated within the city limits be taken to City certified C&D waste processors (LASAN 2018). The build alternative would be constructed in compliance with these regulations, and diversion strategies are expected to be implemented by the contractor during each phase of the build alternative. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, in the full build-out condition the build alternative would involve the construction of a new passenger concourse that would increase solid waste generation above existing conditions at LAUS, which is located in LASAN's North Central watershed. The North Central watershed generates 787,000 tons of solid waste, which is transported to the Central Los Angeles Recycling and Transfer Station, Scholl Canyon Landfill, and Burbank Landfill Site No. 3 for recycling and/or disposal (CalRecycle 2016). Los Angeles County also uses an out-of-county disposal program that exports solid waste to surrounding counties where solid waste demands are lower. The build alternative would result in impacts similar to the proposed project. Given the negligible increase in solid waste attributable to the build alternative, the available landfill capacity, and the existing out-of-county disposal program, this impact is considered less than significant.

Similar to the proposed project, all solid waste generated by the build alternative would be recycled or disposed of in compliance with applicable federal, state, and local statutes and regulations. AB 939 mandates the reduction of waste disposal through integrated facility and program planning, and AB 341 mandates an increase in diversion rates to 75 percent by the year 2020. The City's SWIRP further increases the diversion rate goal beyond the AB 341 diversion rate to 90 percent by the year 2025. Given that the diversion requirements under AB 341 and SWIRP would apply to waste generated from the build

alternative because it is derived from within the City of Los Angeles, the targeted diversion rates would maintain compliance with federal, state, and local statutes and regulations related to solid waste. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, implementation of the build alternative is expected to increase the amount of patrons utilizing LAUS; however, the amount of solid waste generated from additional patronage would be considered negligible compared to existing conditions. New development in the future would also be subject to federal, state, and local statutes and regulations related to solid waste. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

THRESHOLDS 3.11-H AND 3.11-I	H. Require or result in the construction of new gas or electric facilities or expansion of existing facilities I. Have insufficient gas or electricity supplies available to serve the project

Direct Impacts – Construction

Similar to the proposed project, based upon preliminary coordination with utility providers, sufficient supplies of gas and electricity are available to construct the build alternative. Therefore, new facilities and expansion of existing facilities would not be required for construction.

In addition, existing utility services would be maintained throughout construction of the build alternative by relocating services into access roads and utility tunnels to protect the facility during construction and provide for future maintenance. Similar to the proposed project, modifications to utility infrastructure would be limited to relocations; no additional lines or substations would be required for construction.

Any disruptions of utility service would be temporary, and efforts would be made to avoid or minimize potential disruption of service. Similar to the proposed project, coordination with LADWP would be required during final engineering design to avoid potential conflicts. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, the build alternative is anticipated to increase the square footage of LAUS by up to 600,000 square feet. Energy for the retail, restaurant, support, and passenger concourse areas would be required for the lighting, receptacles, heat and air conditioning, and miscellaneous power. Based on preliminary estimates, the project in the full build-out condition would require a maximum of 11,830 kilovolt (or 11.83 MW) of energy (HDR 2016e). Preliminary coordination with utility providers indicates that current supplies are sufficient for the project in the full build-out condition. Operations-related energy use would not require or result in the construction of new gas or electric facilities

or the expansion of existing facilities. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, the build alternative would not have any indirect impacts related to energy.

THRESHOLD 3.11-J	J. Generate unnecessary consumption of energy resources or conflict with initiatives for renewable energy or energy efficiency

Direct Impacts – Construction

The build alternative would use the same forms of energy during construction as the proposed project. Fuel energy use would be temporary and would not represent a significant, permanent, or unnecessary commitment to the use of energy, including non-renewable sources. To minimize energy consumption, the construction contractor would implement standard BMPs in accordance with Metro's Green Construction Policy. Starting in 2018, Metro's Green Construction Policy requires the use of bulk renewable diesel fuel on its construction projects. Renewable diesel is a petroleum-free substitute fuel for diesel engines. It is produced from 100 percent renewable and sustainable materials and is more efficient and cleaner burning than conventional petroleum (Metro 2018a). Metro's Green Construction Policy also requires the following BMPs (Metro 2018b):

- Maintain equipment according to manufacturers' specifications
- Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use
- Use electrical power in lieu of diesel power, where available

Similar to the proposed project, standard BMPs would be implemented by the contractor so that non-renewable energy would not be consumed in a wasteful, inefficient, or unnecessary manner.

Energy sources for construction vehicles and equipment are not in short supply and use of construction equipment would not have a significant impact on the availability of these resources. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Direct Impacts – Operations

Similar to the proposed project, energy consumed at the new passenger concourse would be reduced through the use of sustainable design features and implementation of a variety of measures designed to reduce energy consumption. In addition, the build alternative would be designed to comply with applicable mandatory provisions of the 2016 CALGreen Code, in accordance with the City of Los Angeles Green Building Code. The new passenger concourse would be designed to comply with the Metro Energy and Sustainability policy and achieve at least a LEED® Silver rating.

Proposed design features such as reflective roofing and skylights would assist in the reduction of energy demands. The sustainability framework of the new passenger concourse targets energy efficiency, water conservation, well-being, and site planning, ecology, and resource management. Given the sustainability elements that are planned to be incorporated into the build alternative, a negligible impact on energy resources is expected. Operations-related energy use would not require or result in the construction of new gas or electric facilities or expansion of existing facilities. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, the build alternative would accommodate current and anticipated future increases in rail/transit for the region, resulting in an indirect beneficial impact on energy resources.

The improvement in rail/transit service and connectivity between the different modes of transportation would encourage more individuals to use public transit services, directly reducing the number of personal vehicles on the roads. As discussed in the *Link US Traffic Impact Analysis* (Appendix E of this EIR), and the *Link US Air Quality/Climate Change and Health Impact Assessment* (Appendix G of this EIR), project-related capacity enhancements would indirectly reduce the number of vehicles on the road and indirectly alter regional on-road motor vehicle travel, thereby reducing the VMT in the area. This would reduce gasoline and diesel fuel consumption, thereby resulting in desirable energy benefits. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Cultural Resources

THRESHOLD 3.12-A	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5

As with the proposed project, the build alternative would result in no impact on the following five bridges that are classified as historical resources as defined in §15064.5 and located within the AII. No impact would occur because no physical alteration to any of the bridges would occur with implementation of the build alternative.

- Cesar Chavez Avenue Viaduct over the Los Angeles River
- First Street Viaduct over the Los Angeles River
- Fourth Street Viaduct over the Los Angeles River
- Seventh Street Viaduct over the Los Angeles River
- Olympic Boulevard Viaduct over the Los Angeles River

While some track work would occur where the railroad tracks pass under the bridge structures, and the tracks, ties, and ballast constitute "physical features within the setting" of the bridges, they have been subject to regular replacement over the years as part of routine maintenance, and do not comprise historic

material that contributes to the significance of the bridges themselves. Therefore, there would be no impact on these historical resources.

Additionally, the build alternative would result in no impact on the Thomas R. Barabee Store and Warehouse. No impact would occur to this historical resource because no physical alteration would occur with implementation of the build alternative.

The following six resources are classified as historical resources which the build alternative may cause a substantial adverse change in the significance:

- LAUS and Vignes Street Undercrossing (two separate but related historical resources, as explained in the Historical Resource Evaluation Report)
- William Mead Homes
- Friedman Bag Company—Textile Division Building
- North Main Street Bridge (Bridge #53C 1010)
- Archaeological Site CA-LAN-1575/H

Direct Impacts – Construction

Similar to the proposed project, the build alternative has the potential to result in direct impacts on the following historical resources: LAUS and the Vignes Street Undercrossing, William Mead Homes, Friedman Bag Company—Textile Division Building, the North Main Street Bridge, and Archaeological Site CA-LAN-1575/H.

Los Angeles Union Station and Vignes Street Undercrossing

Similar to the proposed project, in the interim condition, a run-through track structure would be constructed that would result in the demolition of Platform 4 and the associated butterfly shed canopy.

In the full build-out condition, the rail yard would be elevated up to approximately 15 feet above the existing elevation to accommodate the Caltrans vertical clearance requirements for new run-through tracks over both the El Monte Busway and US-101. The at-grade passenger concourse would also be constructed in the full build-out condition. A portion of the characteristics that qualify LAUS for listing in the NRHP/CRHR would be destroyed or substantially altered; therefore, the build alternative would have a substantial adverse change in significance on the same character-defining features as the proposed project, as follows:

- Platforms – The 21-foot-wide concrete platforms would be demolished, and new, longer, wider (29-foot-wide) concrete platforms would be constructed to enhance safety; allow space for proposed elevators, stairs, and escalators; and accommodate building code requirements for loading (ramps and railings would not be replaced). The proposed platforms would be lengthened and elevated up to approximately 15 feet above their present elevation. The build alternative would result in impacts similar to the proposed project.

- Butterfly Shed Canopies – The butterfly shed canopies above the remaining existing platforms would be demolished because they are too narrow, are not long enough to perform their historic function on the widened and lengthened platforms, and do not take into account the design requirements of multiple operating agencies, each with their own unique needs and train types and each with different design criteria for proximity and clearance of canopies. The grand canopy over the rail yard would not convey the historic feeling and association currently experienced by visitors or travelers to LAUS. The build alternative would result in impacts similar to the proposed project.
- Pedestrian Passageway (Tunnel), Ramps, Platform Railings, Solid Balustrades – The pedestrian passageway, passenger ramps, platform railings, and solid balustrades would be demolished to make space for the construction of the at-grade passenger concourse with new expanded passageway. The concourse would include multiple egress routes, with public areas integrated into the design. For the build alternative, the pedestrian passageway would be demolished to accommodate the at-grade passenger concourse-related improvements. Similar to the proposed project, new elevators, escalators, stairs, and ramps would be constructed for the build alternative to achieve compliance with CBC egress and ADA standards. As with the proposed project, the build alternative would not convey the historic feeling and association currently experienced by visitors or travelers to LAUS. The build alternative would result in impacts similar to the proposed project.
- Terminal Tower – The Terminal Tower would be moved and either reoriented at grade or raised vertically, depending on final design. The build alternative would result in impacts similar to the proposed project.
- Car Supply Building – The Car Supply Building and retaining walls would be demolished to raise the rail yard by up to 15 feet. The build alternative would result in impacts similar to the proposed project.
- Undercrossings – The Cesar Chavez Avenue and Vignes Street Undercrossings would be demolished and replaced with new bridges to accommodate the elevated rail yard and the egress requirements from the platforms. The build alternative would result in impacts similar to the proposed project.
- South Retaining Wall – The proposed run-through track structure over the El Monte Busway and US-101 would be designed to span above the existing south retaining wall, which would be largely obscured from public view, but may still be altered (likely with the run-through tracks structure crossing through the wall), would be reconstructed in-kind, where feasible, and visible from US-101. The build alternative would result in impacts similar to the proposed project.

Similar to the proposed project, as described above, the portions of the LAUS property that would be demolished under the build alternative would include the following contributing features: platforms, butterfly shed canopies, ramps, railings, pedestrian passageway, solid balustrades off the passageway to the platforms, Cesar Chavez Avenue Undercrossing, and Car Supply Building. Further, the Vignes Street Undercrossing would also be demolished. The physical removal of these features would be a substantial change in significance of the historical resource, even though LAUS would retain enough integrity to remain

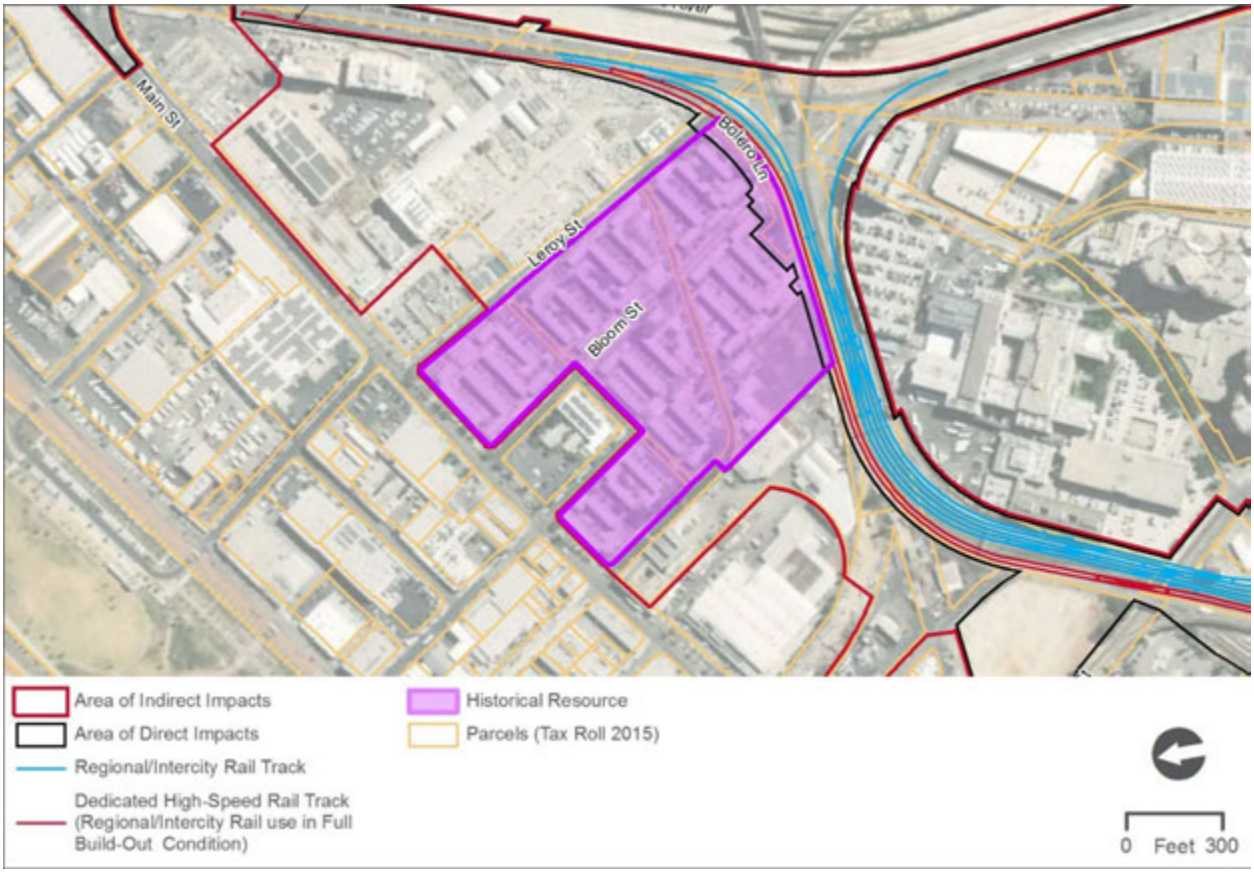
listed in the NRHP/CRHR, due to the preservation of the historic main building (e.g., tile roof, stucco wall cladding, arched main entrance, decorated beams, and tile floors) and other features, such as the ticketing halls, arcades, clock tower, and patios. There would be substantial alterations to the south retaining wall and Terminal Tower. While not a qualifying characteristic, approximately 5 to 7 feet of the Bauchet Street wall at the location where it joins the Avila Street wall would be demolished and replaced by a new wall to provide adequate fire access.

For LAUS and the associated Vignes Street Undercrossing, this is considered a significant impact. As with the proposed project, Mitigation Measures HIST-1a through HIST-1d (described in Section 3.12, Cultural Resources) are proposed to reduce this impact; however, impacts would remain significant and unavoidable.

William Mead Homes

In contrast to the proposed project, the track improvements including two new lead tracks for the planned HSR system and a retaining wall/sound wall associated with the build alternative would extend outside of the railroad ROW; thereby resulting in a physical encroachment along the southern edge (or rear) of the property (Figure 5-23). This encroachment would require a partial acquisition along the property's southern border, which in turn would require the modification to portions of Bolero Lane. The modifications would extend the roadway centerline into the lawn areas closer to the existing buildings, and remove up to 21 parking spaces, a portion of one of the laundry areas, a modern handball court, and small portion of the baseball field. None of the contributing buildings would be acquired or altered. Nonetheless, this is considered a significant impact. Mitigation Measures AES-1 (described in Section 3.4, Aesthetics) and HIST-2 (described in Section 3.12, Cultural Resources) are proposed to reduce impacts; however, impacts would remain significant and unavoidable.

Figure 5-23. William Mead Homes Historic Resource Boundary and Areas of Direct and Indirect Impacts, Build Alternative.



Friedman Bag Company—Textile Division Building

Similar to the proposed project, the Friedman Bag Company—Textile Division Building would be demolished during the interim condition for construction of the loop track. This is considered a significant impact. As with the proposed project, Mitigation Measure HIST-3 (described in Section 3.12, Cultural Resources) would minimize this impact; however, the impact would remain significant and unavoidable.

North Main Street Bridge

Similar to the proposed project, the build alternative would include the same type of safety improvements at the North Main Street Bridge location. Safety improvements at the North Main Street Bridge include: new sidewalk and curb ramps for ADA access; proposed Metrolink wire mesh fence, gates, and hand-railings to keep pedestrians within the sidewalk; modification of northwest and southwest wingwalls to accommodate pedestrian access; modification of the bridge roadway to add a new median (8 inches high, 8 feet-wide, and 100 feet long); new pavement and restriping of the roadway to accommodate the new median and other safety improvements. Work nearby, but not upon, the North Main Street Bridge includes railroad gate and traffic signal improvements, the addition of a second median to the west of the railroad tracks on Main Street, and reconfiguration of an existing utility manhole to grade.

These safety improvements have potential to cause a significant impact on the North Main Street Bridge as a historical resource. The bridge's wingwalls are an important character defining feature, and there is no historic period precedent for a median upon its decking where the new median would be constructed. Impacts are similar to the proposed project. Mitigation Measure HIST-4 (described in Section 3.12, Cultural Resources) includes provisions that require the design of sidewalks, decking, and wingwalls to follow the Secretary of Interior's Standards for the Treatment of Historic Properties, and for the City of Los Angeles CHC to review the proposed modifications pursuant to Article 1, Section 22.171.14 of the City Cultural Heritage Ordinance. Upon implementation of Mitigation Measure HIST-4, impacts would be reduced to a level less than significant.

Archaeological Site CA-LAN-1575/H

Archaeological Site CA-LAN-1575/H extends throughout the parcel boundaries of LAUS and likely extends farther. Similar to the proposed project, implementation of any phase of the build alternative would result in disturbance, displacement, or damage to archaeological remains present in Archaeological Site CA-LAN-1575/H. This site has components that are NRHP/CRHR eligible under Criterion D/4 that have yielded, and are anticipated to yield, significant archaeological data related to the Prehistoric/Historic Native American Period (AD 1000 to 1848) and the American Period (1850 to 1966). Past archaeological projects that impacted the site indicate that significant components of Archaeological Site CA-LAN-1575/H would be directly impacted by construction of the build alternative. Features from the remains of Chinatown including privies and architectural elements, such as floors, foundations and a large number of items left by the residents who were forced to relocate may be encountered. Artifacts, features, and possibly human remains may be uncovered from the Native American component.

Similar to the proposed project, under any phase of the build alternative, Archaeological Site CA-LAN-1575/H may sustain direct impacts as the result of proposed construction activities in the ADI (e.g., excavations for utility relocations, retaining walls, bridge supports, and drainage improvements.). Although a large percentage of this site has been covered in artificial fill, the proposed depth of construction activities ranges between 5 to 100 feet below the present ground surface. Many activities will penetrate below the maximum recorded level of artificial fill and will likely impact significant archaeological deposits. The build alternative would result in a greater potential for impacts as the proposed project due to the substantially greater amount of excavation that would occur for the at-grade passenger concourse. This is considered a significant impact. As with the proposed project, Mitigation Measures HIST-5 and HIST-6 (described in Section 3.12, Cultural Resources) are proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, once operational, the build alternative would involve passenger train operations along the railroad corridor and periodic maintenance of the railroad ROW. There are no anticipated corresponding impacts on any of the built environment historical resources as the result of long-term operations.

Since operations occur at ground surface and intact archaeological resources are buried, there would be no anticipated corresponding impacts on archaeological historical resources throughout operations. The build alternative would result in impacts similar to the proposed project. Therefore, no impacts from long-term operations would occur.

Indirect Impacts

The following are historical resources that are considered for their indirect impacts:

Los Angeles Union Station - The at-grade passenger concourse associated with the build alternative is incompatible with LAUS as a historical resource, resulting in indirect visual impacts. At this early stage of project design, the grand canopy associated with the build alternative and the at-grade concourse may include modern design elements which are incompatible with the historic fabric and other character defining features of LAUS. The grand canopy of the at-grade passenger concourse is vertical in nature, and with a 70 feet maximum height above the elevated rail yard platforms, it would be visible behind the historic concourse and outdoor courtyards which are extant character defining features of LAUS.

Historically, LAUS and its landscape have been experienced primarily, though not completely, in a horizontal, at-grade capacity. A transit rider enters the complex from Alameda Street, either into the waiting room or the ticketing concourse, ultimately moving through enclosed, rectangular courtyards that are traditional features of Spanish Renaissance and Spanish Revival architecture. A visitor might sit and wait temporarily in any of these areas before continuing eastward through the existing passenger concourse and into the pedestrian passageway before ascending up ramps to their respective boarding platform. Though the at-grade concourse is essentially an expanded horizontal passageway in the same at-grade location as the present historic passageway, and offers a similar pattern of east to west circulation from the historic concourse through to the at-grade concourse and then up to the platforms, it is of non-historic dimensions, design, and materials and would have new vertical and expanded horizontal circulation elements.

Though LAUS's historic courtyards will remain, the grand canopy associated with the at-grade passenger concourse may be visible from within them. The at-grade passenger concourse itself would not be visible from the historic courtyards, LAUS, or beyond.

These indirect impacts are considered a significant impact for LAUS. While Mitigation Measure HIST-1a through HIST-1d (described in Section 3.12, Cultural Resources) are proposed to mitigate impacts at LAUS, the impacts would remain significant and unavoidable.

William Mead Homes - Similar to the proposed project, construction of a sound wall atop the retaining wall adjacent to William Mead Homes associated with the build alternative would result in indirect impacts because of the introduction of visual elements associated with a sound wall where there was not previously a wall. This indirect impact is considered a significant impact for William Mead Homes. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measures AES-1 (described in Section 3.4, Aesthetics) and HIST-2 (described in Section 3.12, Cultural Resources) are proposed to reduce impacts to a level less than significant.

Los Angeles Department of Water and Power Main Street Center – Similar to the proposed project, the build alternative would introduce a retaining wall within the railroad ROW and adjacent to the historical resource boundary but neither would acquire any portion of the historical resource nor any of the contributing buildings. LADWP Main Street Center resource has a utilitarian/industrial character, and the visual impact associated with introduction of a new retaining wall and movement of existing railroad tracks closer to the contributing buildings on the property is considered less than significant.

Mission Tower – Similar to the proposed project, the tracks that connect to LAUS that would be elevated for the build alternative would return to grade well before they reach Mission Tower. The visual change from the existing condition would be minimal at Mission Tower, and the integrity of the characteristics that qualify it for the CRHR would not be diminished. Therefore, impacts are considered less than significant.

Terminal Annex – Similar to the proposed project, the rear of the building would not be destroyed, damaged, nor altered and no portion of the property would be acquired as a result of the build alternative. Potential vibration from work in parcels adjacent to the property is unlikely to disturb the current occupants and function of the building, because drilling, and not pile driving, is proposed at this location. Impacts are considered less than significant.

Macy Street School – Similar to the proposed project, the setting at LAUS, to the west of the Macy Street School, would be changed with the build alternative but it does not contribute to historic significance under Criterion 1 (association with events that have made a significant contribution to the broad patterns of history) for ethnic heritage or Criterion 2 (association with the lives of historically important persons) for association with Principal Sterry. Therefore, it would be considered a less than significant impact on the resource. Impacts are considered less than significant.

Los Angeles Plaza Historic District – No direct impact on the Los Angeles Plaza Historic District will occur because it will not be physically disturbed or altered by the build alternative. The grand canopy associated with the at-grade passenger concourse would be a maximum height of 70 feet above the elevated rail yard platforms. The appearance of this infrastructure element may result in an indirect visual impact since it may be visible from portions of the Plaza area. However, none of the characteristics that qualify Los Angeles Plaza Historic District for the CRHR would have their integrity diminished, because the views east from the Plaza have changed substantially since the end of the period of significance (1932). This view of the landscape has changed dramatically over the last eight decades due to the construction of LAUS, modernization of Alameda and Los Angeles Streets, construction of US-101 and the El Monte Busway, high rise condominium buildings, Gateway Plaza, and the MWD Headquarters. Therefore, indirect impacts associated with the Plaza are considered a less than significant.

Denny's Restaurant - The parking lot would be used as a temporary staging area for the build alternative. The Denny's building will not be physically disturbed or altered, and its setting would be unchanged after construction is completed. Therefore, impacts are considered less than significant.

Archaeological Site CA-LAN-1575/H - During construction activities for any phase of the build alternative, even though the construction site would be fenced and off-limits to the general public, indirect impacts

may still result from increased accessibility to archaeological resources (such as artifacts) by construction personnel that could lead to resource looting or vandalism activities. Damage to improperly curated artifacts and other specimens is considered an indirect impact. The build alternative would result in impacts similar to the proposed project. This is considered a significant impact. As with the proposed project, Mitigation Measure HIST-5 (described in Section 3.12, Cultural Resources) is proposed to reduce impacts to a level less than significant.

THRESHOLD 3.12-B	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5

Direct Impacts – Construction

Similar to the proposed project, ground disturbance during construction for any phase of the build alternative has a high potential to impact recorded and unrecorded archaeological deposits in this highly sensitive ADI because project components, such as bridges (proposed to be demolished and replaced during the full build-out condition), would have deep excavations. A single multicomponent NRHP/CRHR-eligible resource, Archaeological Site CA-LAN-1575/H, is recorded within the ADI, and there is also the potential to encounter previously unrecorded archaeological resources buried within the ADI. Archaeological Site CA-LAN-1575/H is situated throughout the entire LAUS footprint and likely extends further than the currently defined boundary. Ground-disturbing construction activities during any phase of work would occur in areas known to contain Archaeological Site CA-LAN-1575/H and in areas that may contain previously undiscovered prehistoric and historical archaeological features or sites. The build alternative would result in a greater potential for impacts than the proposed project due to the substantially greater amount of excavation that would occur associated with the at-grade concourse. As with the proposed project, Mitigation Measures HIST-5 and HIST-6 (described in Section 3.12, Cultural Resources) are proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

As with the proposed project, once operational, the build alternative would involve passenger train operations along the railroad corridor and periodic maintenance on the railroad ROW. Since operations would occur at ground surface, and intact archaeological resources are buried, there would be no anticipated corresponding impacts of these operations to archaeological resources. Therefore, no impact would occur.

Indirect Impacts

Similar to the proposed project, during construction activities for any phase of the build alternative, even though the construction site would be fenced and off-limits to the general public, indirect impacts may still result from increased accessibility to archaeological resources (such as artifacts) by construction personnel that could lead to resource looting or vandalism activities. Damage to improperly curated artifacts and other specimens is considered a significant impact. The build alternative would result in impacts similar to

the proposed project. As with the proposed project, Mitigation Measure HIST-5 (described in Section 3.12, Cultural Resources) is proposed to reduce this impact to a level less than significant.

THRESHOLD 3.12-C	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

Direct Impacts – Construction

Similar to the proposed project, there is a potential for direct impacts on paleontological resources during any phase of work as a result of construction activities associated with the build alternative that may result in the damage or destruction of fossils or the disturbance of the stratigraphic context in which they are located. Paleontological resource impacts would occur due to deep excavations beneath recent alluvium. Additionally, the at-grade passenger concourse (proposed to be built during the full-build-out condition) would result in significant impacts on paleontological resources if paleontologically sensitive sediments are encountered during excavation.

Ground-disturbing construction activities for all phases of work in shallow layers (i.e., fill or recent alluvium) would not impact paleontological resources. In contrast to the proposed project, shallow excavations related to the at-grade concourse design (anticipated to be 20 feet deep), raised rail yard, and elevated platforms associated with the build alternative are unlikely to impact paleontologically sensitive sediments. However, deeper excavations for other proposed bridge structures (run-through tracks structure, Cesar Chavez Avenue and Vignes Street Bridges, etc.) are anticipated to extend up to 100 feet below the surface and have the potential to impact paleontologically sensitive deposits of older Quaternary alluvium (depth not reported in cross-section but typically 40 to 70 feet deep in the vicinity of LAUS [Appendix L of this EIR]) and underlying Puente Formation (reported at depths of approximately 90 to 100 feet in areas around the newly proposed concourse). This is considered a significant impact. As with the proposed project, Mitigation Measures PAL-1 through PAL-3 (described in Section 3.12, Cultural Resources) are proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, once operational, the build alternative would involve passenger train operations along the railroad corridor and periodic maintenance of the railroad ROW. Since operations occur at ground surface and intact paleontological resources are deeply buried, there would be no anticipated corresponding impacts of these operations on paleontological resources. The build alternative would result in impacts similar to the proposed project. Therefore, no impact would occur.

Indirect Impacts

Similar to the proposed project, even though the construction site would be off-limits to the general public, indirect impacts during all phases of work associated with the build alternative may result from increased accessibility by construction personnel to fossils through construction activities leading to potential resource looting or vandalism activities. Additionally, damage to improperly curated fossil specimens may

be considered an indirect impact. This is considered a significant impact. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measures PAL-1 through PAL-3 (described in Section 3.12, Cultural Resources) are proposed to reduce impacts to a level less than significant.

THRESHOLD 3.12-D	Disturb any human remains, including those interred outside of formal cemeteries

Direct Impacts – Construction

Similar to the proposed project, ground-disturbing construction activities associated with the build alternative during all phases of work would occur in areas with the potential to contain human remains. This is considered a significant impact. The build alternative would result in a greater potential for impacts as the proposed project due to the substantially greater amount of excavation that would occur for the at-grade passenger concourse. As with the proposed project, Mitigation Measure HR-1 (described in Section 3.12, Cultural Resources) is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, once operational, the build alternative would involve passenger train operations along the railroad corridor and periodic maintenance of the railroad ROW. Since operations would occur at ground level and the discovery of human remains would occur only with ground-disturbing construction, there would be no anticipated corresponding impacts of these operations on human remains. The build alternative would result in impacts similar to the proposed project. No impact would occur.

Indirect Impacts

Similar to the proposed project, indirect impacts on human remains during any phase of the build alternative are not anticipated. Therefore, no impact would occur.

THRESHOLD 3.12-E	Cause a substantial adverse change in the significance of a TCR as defined in §21074

Direct Impacts – Construction

The boundary for Tribal Cultural Resource CA-LAN-1575/H is currently associated with the parcel boundaries of LAUS, although it is likely to extend further than its currently defined boundary. Similar to the proposed project, ground-disturbing construction activities for any phases of the build alternative include components (i.e., utility work, storm drain modification work, concourse and bridge support piles, etc.) that would have excavations in areas with the potential to contain Tribal Cultural Resource CA-LAN-1575/H as it relates to the descendants of groups that inhabited the area in the Native American period. This is considered a significant impact. The build alternative would result in a greater potential for impacts as the proposed project due to the substantially greater amount of excavation that would occur

with the at-grade passenger concourse. As with the proposed project, Mitigation Measures HIST-5 and HIST-6, as well as TCR-1 (described in Section 3.12, Cultural Resources), are proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, once operational, the build alternative would involve passenger train operations along the railroad corridor and periodic maintenance of the railroad ROW. Since operations would occur at ground surface, and the intact tribal cultural resource is buried, there would be no anticipated corresponding impacts on these operations to TCRs. The build alternative would result in impacts similar to the proposed project. Therefore, no impact would occur.

Indirect Impacts

Similar to the proposed project, even though the construction site would be off-limits to the general public, during construction activities associated with any phase of the build alternative, indirect impacts may result from increased accessibility by construction personnel to the tribal cultural resource (such as artifacts or sacred items) that could lead to resource looting or vandalism activities. Damage to improperly curated artifacts and other specimens is considered a significant impact. The build alternative would result in impacts similar to the proposed project. As with the proposed project, Mitigation Measure HIST-5 (described in Section 3.12, Cultural Resources) is proposed to reduce impacts to a level less than significant.

Public Services

THRESHOLD 3.13-A	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: i. Fire Protection ii. Police Protection

Direct Impacts – Construction

One fire station, LAFD Fire Station 4, is located in the project study area at 450 Temple Street in the Little Tokyo/Olvera Street/Chinatown community. Depending on the nature of the response, fire response may come from this location or from two to four of the surrounding fire stations. Similar to the proposed project, increased traffic congestion caused by construction vehicles and access disruptions, such as road closures or road construction, could affect emergency response times; however, these disruptions are expected to be temporary and intermittent. Similar impacts on law enforcement services could also occur with implementation of the build alternative, thereby further affecting response times. The potential for an impact would occur during construction in the interim and full build-out conditions, and would be primarily

related to construction of the run-through track infrastructure south of US-101 and reconstruction of existing Vignes Street and Cesar Chavez Avenue Bridges. In the full build-out with HSR condition, there would be less potential for impacts on emergency response times because roadway construction would have already been completed prior to implementation of the planned HSR system. The build alternative would result in impacts similar to the proposed project. This is considered a significant impact. As with the proposed project, Mitigation Measure TR-1 (described in Section 3.3, Transportation and Traffic) is proposed to reduce impacts to a level less than significant.

Direct Impacts – Operations

Similar to the proposed project, the build alternative is not anticipated to affect service ratios, response times, or other performance objectives throughout operation. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

The build alternative would also not impact emergency access. Similar to the proposed project, in 2031 and 2040, minimal project-related increases in delay are expected at intersections within the traffic study area. Emergency access would be maintained from Patsaouras Transit Plaza, which would provide emergency and fire lane access to the eastern side of the station. All modifications made would be coordinated and approved by the Fire Marshal to ensure the safest access is provided for emergency service providers. Upon completion of construction, no changes would be made to the evacuation routes as identified by the City. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Indirect Impacts

Similar to the proposed project, the build alternative would not directly generate population growth or require provision of new public services. In addition, any new private development around LAUS would be subject to the requirements of the City's General Plan, which sets policies and goals for provision of public services such as schools, parks, fire, police, and other public facilities. The build alternative would result in impacts similar to the proposed project. Impacts are considered less than significant.

Conclusion - Build Alternative

The build alternative would result in greater impacts related to transportation, air quality, and hazardous materials than the proposed project, and reduced impacts related to noise. The build alternative would meet all of the project objectives.

5.4.3 Reduced Historic Impact Alternative

Introduction

Section 15126.6(a) of the CEQA Guidelines requires that an EIR describe a range of alternatives to the project which would feasibly attain most of the project objectives, but would avoid or substantially lessen any of the significant impacts of the project.

Alternative Description

The purpose of the Reduced Historic Impact Alternative is to avoid or substantially reduce significant impacts on historical resources, archaeological resources, and paleontological resources. This alternative would accommodate future HSR trains on shared lead tracks in the throat segment, and would include an elevated rail yard, new above-grade passenger concourse, and up to ten run-through tracks. The key preservation elements of the Reduced Historic Impact Alternative are summarized below:

- Preserve Existing Historic Pedestrian Passageway (Tunnel) - The Reduced Historic Impact Alternative includes preservation of the existing pedestrian passageway; however, reconstruction of the existing ramps and stairs would be required to serve the new raised and widened platforms. The Reduced Historic Impact Alternative does not include a new expanded passageway below the rail yard. To preserve the existing pedestrian passageway, its utilities, and structure, the platforms may only be served by stairs and ramps, similar to existing conditions. The ramps would need to be extended approximately 70 feet in length to accommodate the elevated rail yard. Ramps would need to be nearly 300 feet in total length. As the existing Red/Purple Line structure is located diagonally across the rail yard footprint and directly beneath the pedestrian passageway, the floor of the pedestrian passageway would need to be maintained at its current elevation, on top of the Red/Purple Line station box. The existing portals along the pedestrian passageway walls, some of which have already been widened from their historic dimensions, would again be relocated to support the widened platforms on the elevated rail yard. The pedestrian passageway ceiling would need to be reconstructed because it is structurally attached to the existing platforms that would be elevated.
- Retain and Reuse Historic Butterfly Shed Canopy - Although the existing canopies may leak and require some level of repair, the Reduced Historic Impact Alternative would include the reuse of the majority of existing historic butterfly shed canopy structures with the new wider platforms on the elevated rail yard.
- Preserve Undercrossing at Cesar Chavez Avenue with New Bridge - The Reduced Historic Impact Alternative would preserve the Cesar Chavez Avenue Undercrossing in place and include construction of a new bridge crossing over the existing structure to fulfill structural loading capacity requirements for new tracks. The existing bridge currently has an existing load rating of Cooper E-47.3, which is below the required load rating of Cooper E-60.
- Preserve Undercrossing at Vignes Street with New Bridge - The Reduced Historic Impact Alternative would preserve the Vignes Street Undercrossing in place and include construction of a new bridge crossing over the existing structure to fulfill structural loading requirements for new tracks. The existing bridge currently has an existing load rating of Cooper E-50, which is below the required load rating of Cooper E-60.
- Preserve North Main Street Bridge – The Reduced Historic Impact Alternative does not include the safety improvements at the Main Street public at-grade crossing on the west bank of the Los Angeles River (medians, restriping, signals, and pedestrian and vehicular gate systems) to facilitate

future implementation of a quiet zone by the City of Los Angeles. No modifications to the wing walls or addition of new median on the bridge would occur.

Land Use and Planning

As with the proposed project, this alternative would be constructed mostly within the existing railroad ROW and would not physically divide an established community. Similar to the proposed project, new run-through track structures would impede upon or preclude future implementation of active transportation improvements that would enhance neighborhood connectivity and/or provide connections to the Los Angeles River, particularly connections from LAUS to the Los Angeles River. As with the proposed project, implementation of Mitigation Measure LU-1 (described in Section 3.2, Land Use and Planning) is proposed to reduce impacts to a level less than significant. Therefore, the Reduced Historic Impact Alternative would result in similar impacts as the proposed project.

Transportation and Traffic

The Reduced Historic Impact Alternative includes preservation of the existing pedestrian passageway. Since the only ground disturbance associated with this alternative in Segment 2 is in previously disturbed soils and is related to connecting ramps from the existing passageway to the newly raised rail yard and platforms, this alternative would require less grading and excavation than would be required for the proposed project to build the new above-grade passenger concourse. Therefore, this alternative would generate fewer construction truck trips although significant construction-related traffic impacts are still anticipated occur due to the resulting traffic delays and detours during construction. As with the proposed project, implementation of Mitigation Measure TR-1 (described in Section 3.3, Transportation and Traffic) is proposed to reduce impacts to a level less than significant. Therefore, the Reduced Historic Impact Alternative would result in similar construction-related transportation and traffic impacts as the proposed project.

Throughout operations, it is anticipated that impacts would still occur to the same intersections. Similar to the proposed project, in the 2031 condition, implementation of the Reduced Historic Impact Alternative would result in significant delays at the following three intersections per LADOT guidelines:

- Intersection #2: Garey Street and Commercial Street (AM peak hour)
- Intersection #10: Alameda Street and Los Angeles Street WB (PM peak hour)
- Intersection #15: Vignes Street and Main Street (PM peak hour)

Project-related operational traffic under this alternative would be similar to the proposed project. The Reduced Historic Impact Alternative would result in similar impacts to intersections in the 2031 condition and the 2040 condition. As with the proposed project, Mitigation Measure TR-2 (described in Section 3.3, Transportation and Traffic) is proposed to improve operations at Intersection #4 to better than pre-project conditions, and would minimize the operational traffic delay at Intersection #4, thereby reducing the operational traffic impact at Intersection #4 to a level less than significant.

Due to the limitation of signal timing, phasing, and coordination, no additional feasible mitigation measures are proposed to minimize the operational traffic delay at Intersection #2 in the 2031 and 2040 conditions. The project-related increased delays would continue to exceed LADOT guidelines for Intersection #2. Therefore, as with the proposed project, the operational traffic impacts at Intersection #2 would be significant and unavoidable for the Reduced Historic Impact Alternative.

As with the proposed project, train operations could be impacted during construction, and with implementation of Mitigation Measure TR-3 (described in Section 3.3, Transportation and Traffic), potential impacts on train operations during construction would be reduced to a level less than significant.

Although this alternative would reduce the amount of construction traffic, impacts would still occur to the same facilities. Therefore, traffic impacts would be similar to the proposed project.

Aesthetics

As with the proposed project, this alternative would include the addition of a retaining wall and sound wall supporting new lead tracks that would run alongside William Mead Homes, which would lead to a substantial degradation to the existing visual character in this area. As with the proposed project, Mitigation Measure AES-1 (described in Section 3.4, Aesthetics) is proposed to reduce impacts to a level less than significant.

Similar to the proposed project, residences that are located in close proximity to proposed infrastructure (William Mead Homes and Mozaic Apartments) could be exposed to higher levels of lighting during the nighttime hours for a temporary duration throughout project construction and to increased light and glare permanently during operations. As with the proposed project, Mitigation Measures AES-2 and AES-3 (described in Section 3.4, Aesthetics) are proposed to reduce construction-related and operations-related light and glare impacts to a level less than significant. Therefore, aesthetics impacts would be similar to the proposed project.

Air Quality and Global Climate Change

The Reduced Historic Impact Alternative includes preservation of the existing pedestrian passageway. As discussed above, this alternative would reduce the number of construction truck trips, which would reduce the daily and annual construction emissions. Mobile-source emissions and fugitive dust emissions are anticipated to be less than the proposed project, but still significant. As with the proposed project, Mitigation Measures AQ-1 and AQ-2 (described in Section 3.5, Air Quality and Global Climate Change) are proposed to reduce the fugitive dust and exhaust emissions generated on-site during construction. However, emissions under this alternative would still exceed the localized SCAQMD local significance thresholds after mitigation; therefore, impacts would remain significant and unavoidable.

Similar to the proposed project, during construction, peak cancer risks under this alternative would exceed the SCAQMD's threshold of 10 in 1 million. As with the proposed project, Mitigation Measure AQ-2 is proposed to reduce impacts to a level less than significant. This alternative would also result in long-term health risks at sensitive receptors (residential land uses near the railway). This is considered a significant

impact. Mitigation Measure AQ-3 (described in Section 3.5, Air Quality and Global Climate Change) is proposed to reduce impacts to level less than significant.

Although this alternative would reduce the amount of air quality emissions, impacts would still remain significant after mitigation. Therefore, air quality impacts would be similar to the proposed project.

Noise and Vibration

The Reduced Historic Impact Alternative includes preservation of the existing pedestrian passageway. Noise associated with vehicular trips is anticipated to be lower; however, construction-related noise impacts would still be considered significant for residents of William Mead Homes and the Mozaic Apartments. As with the proposed project, Mitigation Measures NV-2 and NV-3 (described in Section 3.6, Noise and Vibration) is proposed to reduce these impacts; however, impacts would remain significant and unavoidable.

Similar to the proposed project, this alternative would result in significant construction-related vibration impacts for residents of William Mead Homes and the Mozaic Apartments. As for the proposed project, Mitigation Measures NV-2 and NV-3 (described in Section 3.6, Noise and Vibration) are proposed to reduce construction-related vibration impacts to a level less than significant.

Similar to the proposed project, the operational noise impact in the 2031 and 2040 conditions would be significant; although the number of severely-impacted sensitive receptors is reduced. Mitigation Measure NV-1 (described in Section 3.6, Noise and Vibration) is proposed to reduce operational noise impacts in the 2031 and 2040 conditions to a level less than significant.

Although this alternative would reduce the amount of construction noise, impacts would still remain significant after mitigation. Operational noise impacts would also be reduced. Therefore, noise and vibration impacts would be reduced compared to the proposed project.

Biological Resources

Compared to the proposed project, this alternative would preserve the Cesar Chavez Avenue Undercrossing and Vignes Street Undercrossing in place and would include construction of a new bridge crossing over the existing structures at these locations. Although the retention of existing bridges at Cesar Chavez Avenue and Vignes Street would avoid the demolition of these structures that may provide habitat for MBTA species and special-status bats, the addition of new bridge crossings at these locations would cause the same potential for impact, and would require the same preconstruction surveys and avoidance measures (Mitigation Measures BIO-1 and BIO-2 [described in Section 3.7, Biological Resources]) for these species at these locations. In addition, this alternative could result in impacts on protected trees; implementation of Mitigation Measure BIO-3 (described in Section 3.7, Biological Resources) is proposed to reduce impacts to a level less than significant. Similar to the proposed project, with implementation of mitigation, impacts on biological resources would be reduced to a level less than significant. Therefore, biological resources impacts would be similar to the proposed project.

Hydrology and Water Quality

As with the proposed project, this alternative would require extensive grading to construct the run-through infrastructure south of LAUS and elevate the rail yard. Any increases in sediment load from the construction area could lead to alterations in drainage patterns due to accumulations of sediment in downstream areas, if not properly managed. This alternative would also increase impervious surfaces. An overall increase in storm runoff is anticipated to result from increased impervious surface area, which would increase the volume of flow and exceed the capacity of some on-site drainage systems. Similar to the proposed project, this alternative would also result in significant water quality impacts during construction and operations. As with the proposed project, implementation of Mitigation Measures HWQ-1 through HWQ-8 (described in Section 3.8, Hydrology and Water Quality) are proposed to reduce impacts to a level less than significant. Therefore, hydrology and water quality impacts would be similar to the proposed project.

Geology and Soils

Implementation of this alternative would result in similar impacts related to geology and soils as the proposed project, as the project site would be graded to accommodate development, and new facilities would be constructed on the project site per current building code requirements. Similar to the proposed project, settlement due to application of higher loads and liquefaction of the existing soils have the potential to occur under this alternative. As with the proposed project, implementation of Mitigation Measure GEO-1 (described in Section 3.9, Geology and Soils) is proposed to reduce impacts associated with geology and soils to a level less than significant. Therefore, geology and soils impacts would be similar to the proposed project.

Hazards and Hazardous Materials

This alternative would be located in close proximity to the same existing RECs as the proposed project. The close proximity of these existing RECs to project-related construction activities would carry the potential for encountering contaminated soil and/or groundwater. This alternative would also require demolition of existing structures. As with the proposed project, implementation of Mitigation Measures HAZ-1 through HAZ-8 (described in Section 3.10, Hazards and Hazardous Materials) are proposed to reduce impacts associated to a level less than significant. Therefore, hazards and hazardous materials impacts would be similar to the proposed project.

Utilities/Service Systems and Energy Conservation

Similar to the proposed project, utility replacements and/or relocations would have the potential to encounter documented and undocumented cultural resources. Some of these resources could be historically significant. As with the proposed project, implementation of Mitigation Measure HIST-5 (described in Section 3.12, Cultural Resources) is proposed to reduce impacts to a level less than significant. Therefore, utilities/service systems and energy conservation impacts would be similar to the proposed project.

Cultural Resources

Historical Resources

As described in Section 3.12, Cultural Resources, the portions of the LAUS property that would be demolished as part of the proposed project would include the following contributing features: platforms, butterfly shed canopies, ramps, railings, pedestrian passageway, Cesar Chavez Avenue Undercrossing, Car Supply Building, and Vignes Street Undercrossing.

Compared to the proposed project, this alternative would reduce significant impacts on historical resources. The Reduced Historic Impact Alternative includes preservation of the existing pedestrian passageway and the reuse of the existing historic butterfly shed canopy structures. Therefore, compared to the proposed project, this alternative would avoid the demolition of these character-defining features.

Compared to the proposed project, this alternative would preserve the Cesar Chavez Avenue Undercrossing and Vignes Street Undercrossing in place and would include construction of a new bridge crossings over the existing structures at these locations. Due to the requirement to raise the tracks at the throat, this alternative would involve the following:

- Existing historic bridge remains in place
- A new bridge would be constructed over the existing bridge using steel superstructure
- New structural elements could match the materials of the existing structure

Although the retention of existing bridges at Cesar Chavez Avenue and Vignes Street would avoid the demolition of these structures that are contributing features to a historic resource, this alternative would result in indirect visual changes to the existing bridge structures through the addition of a superstructure; this would be considered a significant adverse change to a historic resource.

Although this alternative would avoid the demolition of the existing passageway and butterfly shed canopy structures, it would still have a substantial adverse change in significance on the following character-defining features: platforms, outdoor courtyards, Terminal Tower, Car Supply Building, and south retaining wall. Similar to the proposed project, the above-grade passenger concourse associated with this alternative would be incompatible with LAUS as a historical resource resulting in indirect effects. The height of the above-grade passenger concourse at over 90 feet above grade would be visible behind the historic concourse and outdoor courtyards (extant character defining features of LAUS). This is considered a significant impact. As with the proposed project, Mitigation Measures HIST-1a through HIST-1d (described in Section 3.12, Cultural Resources) are proposed to reduce these impacts; however, impacts would remain significant and unavoidable.

Similar to the proposed project, this alternative would still result in significant impacts on other historical resources, including indirect visual impacts at William Mead Homes (through the addition of a retaining wall/sound wall at the rear of the property) and direct impacts on the Friedman Bag Company—Textile Division Building (which would be demolished during the interim condition for construction of the loop

track). As with the proposed project, Mitigation Measures AES-1 (described in Section 3.4, Aesthetics) and HIST-2 (described in Section 3.12, Cultural Resources) are proposed to reduce impacts on William Mead Homes to a level less than significant. Mitigation Measure HIST-3 (described in Section 3.12, Cultural Resources) is proposed to minimize impacts on the Friedman Bag Company—Textile Division Building; however, as with the proposed project, impacts would remain significant and unavoidable.

Compared to the proposed project, this alternative would not include the safety improvements at the Main Street public at-grade crossing on the west bank of the Los Angeles River to facilitate future implementation of a quiet zone by the City of Los Angeles. Therefore, this alternative would avoid impacts on the North Main Street Bridge because it would not result in the modification of the bridge needed to convert the area for a quiet zone.

Archaeological Resources and Paleontological Resources

This alternative would reduce the amount of grading and excavation that would be required under the proposed project since only the elevated portion of the above-grade concourse is proposed and the historic passageway is maintained. Ground disturbance associated with this alternative in Segment 2 is at least partially in previously disturbed soils (existing rail yard fill) and is related to connecting the existing passageway to the newly raised rail yard and platforms and intermittent deep excavations for piles to support the above-grade structure.

Implementation of this alternative would reduce the potential impact with respect to known and unknown archaeological resources and paleontological resources. Because this alternative would have a reduced area of disturbance as compared to the proposed project, there would be a reduced potential for encountering archaeological resources and paleontological resources during grading activities. As with the proposed project, Mitigation Measures PAL-1 through PAL-3 (described in Section 3.12, Cultural Resources) are proposed to reduce impacts on paleontological resources to a level less than significant. Implementation of Mitigation Measures HIST-5 and HIST-6 (described in Section 3.12, Cultural Resources) are proposed to reduce impacts on archaeological resources to a level less than significant.

Public Services

Similar to the proposed project, increased traffic congestion caused by construction vehicles and access disruptions, such as road closures or road construction, could affect emergency response times under this alternative. As with the proposed project, Mitigation Measure TR-1 (described in Section 3.3, Transportation and Traffic) is proposed to reduce impacts on emergency response times to a level less than significant. Therefore, public services impacts would be similar to the proposed project.

Conclusion – Reduced Historic Impact Alternative

Under this alternative, impacts on historical resources, archaeological resources, and paleontological resources would be avoided and/or substantially reduced. This alternative would not result in additional significant impacts on the remaining issue areas beyond what would occur under the proposed project, as described above.

This alternative would meet all of the project objectives, with exception of the following:

- Provide an expanded passenger concourse at LAUS that is functionally modern with enhanced safety elements, ADA accessibility, and passenger amenities

To preserve the existing passageway, its utilities, and structure, the platforms may only be served by stairs and ramps, as in the current condition. As a result of this alternative, the platform canopies would not provide adequate coverage for weather protection since the platforms would be widened and lengthened and the butterfly shed canopies would not perform their historic function since they remain the existing size. Further, reuse of the butterfly shed canopies with this alternative do not take into account the design requirements of multiple operating agencies, each with their own unique needs and train types and each with different design criteria for proximity and clearance of canopies. This alternative would not improve pedestrian access to the train platforms, provide modernized VCEs, improve passenger flow and capacity, or enhance accessibility for passengers with disabilities.

5.5 Environmentally Superior Alternative

This section identifies the Environmentally Superior Alternative among the alternatives considered in this EIR. CEQA defines the Environmentally Superior Alternative as the alternative that would result in the fewest or least significant environmental impacts, while still achieving the project objectives.

As provided in Table 5-15, the no project/no build alternative would avoid the construction and operational impacts identified for the proposed project. However, the no project/no build alternative does not meet the project objectives. Additionally, CEQA Guidelines, Section 15126.6(e) requires that, if the environmentally superior alternative is the "no project alternative," the EIR shall also identify an environmental superior alternative among the other alternatives.

Compared to the proposed project, the Reduced Historic Impact Alternative would reduce impacts on cultural resources (historical resources, archaeological resources, and paleontological resources). Therefore, the Reduced Historic Impact Alternative is considered the Environmentally Superior Alternative. This alternative would meet all of the project objectives, with exception of one, because it does not provide an expanded passenger concourse at LAUS that is functionally modern with enhanced safety elements, ADA accessibility, and passenger amenities.

Table 5-15. Comparison of Alternative Impacts on Proposed Project

Environmental Issue Area	Proposed Project	No Project/No Build Alternative	Build Alternative	Reduced Historic Impact Alternative
Land Use and Planning	Less than significant with mitigation	Avoid	Similar	Similar
Transportation	Significant and unavoidable	Avoid	Greater	Similar
Aesthetics	Less than significant with mitigation	Avoid	Similar	Similar
Air Quality and Global Climate Change	Significant and unavoidable	Avoid	Greater	Similar
Noise and Vibration	Significant and unavoidable	Avoid	Reduced	Similar
Biological Resources	Less than significant with mitigation	Avoid	Similar	Similar
Hydrology and Water Quality	Less than significant with mitigation	Avoid	Similar	Similar
Geology and Soils	Less than significant with mitigation	Avoid	Similar	Similar
Hazards and Hazardous Materials	Less than significant with mitigation	Avoid	Greater	Similar
Utilities/Service Systems and Energy Conservation	Less than significant with mitigation	Avoid	Similar	Similar
Cultural Resources	Significant and unavoidable	Avoid	Greater	Reduced
Public Services	Less than significant with mitigation	Avoid	Greater	Similar

Notes:
Avoid = Impacts under this alternative avoided as compared to impacts for the proposed project.
Reduced = Impacts under this alternative reduced as compared to impacts for the proposed project.
Similar = Impacts under this alternative similar to impacts for the proposed project.
Greater = Impacts under this alternative greater to impacts for the proposed project.

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