CHAPTER 5.0 OTHER STATUTORY CONSIDERATIONS

This chapter provides discussion of other statutory requirements under the National Environmental Policy Act (NEPA) and/or the California Environmental Quality Act (CEQA). These topics include a discussion of growth-inducing impacts, a summary comparison of the Build Alternatives and Design Options, and the identification of significant and unmitigable impacts. Per the requirements of NEPA, this chapter includes a discussion of the relationship between short-term use of the environment and the maintenance and enhancement of long-term productivity. As required by CEQA, this chapter also includes a discussion of irreversible and irretrievable resource commitments, impacts that are less than significant, and the identification of the environmentally superior alternative.

5.1 GROWTH-INDUCING IMPACTS

In accordance with Section 15126.2(d) of the CEQA Guidelines, an Environmental Impact Report (EIR) must:

> *"Discuss the ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth ... Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

Additionally, the Council on Environmental Quality (CEQ) regulations, which establish the steps necessary to comply with NEPA, require evaluation of the potential environmental consequences of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations, 40 CFR 1508.8, refer to these consequences as secondary impacts. Secondary impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

Future growth and land use patterns within the region are greatly influenced by the Southern California Association of Governments' (SCAG's) visioning process, known as the Compass Blueprint Program (Blueprint), which identifies a regional strategy to accommodate project growth in southern California. The Blueprint seeks to accommodate growth through the development of demonstration projects that capitalize on the collaboration between regional planning agencies, local communities, and jurisdictions. As part of this visioning program, the San Bernardino Associated Governments (SANBAG) completed the Redlands Rail Feasibility Study (2003) and the Redlands Passenger Rail Station Area Plans (2010). These studies explored the feasibility of establishing passenger rail service between the cities of San Bernardino and Redlands, while identifying transportation alternatives, potential station

locations, and multi-modal transit development opportunities. The Project is identified as a major transit project in SCAG's latest Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (2012). Transportation projects outlined in the RTP/SCS are planned for implementation through 2035 to accommodate growth and intensified development within the SCAG region.

As provided in Section 3.2, the population within the Planning Area is expected to increase by 11 to 17 percent between the years 2010 and 2035. Employment in the region is expected to grow by 22 to 28 percent between 2010 and 2035 (SCAG 2012). The Project is proposed to address the transit needs of this growing population by constructing the necessary backbone track and bridge infrastructure to facilitate passenger train movements between the Cities of San Bernardino and Redlands. In addition to facilitating Project operations, this infrastructure would provide the foundation for future phases of operation, if proposed, and could serve as an initial catalyst for change in future land use within the Cities of San Bernardino and Redlands to TOD forms of development (TOD). Both cities have identified transit infrastructure as a constraint to TOD growth within their respective jurisdictions. Given that one of the primary objectives of the Project is to construct the necessary track rail infrastructure to fully realize the transit benefits along the Redlands Corridor, the Project would remove this obstacle.

In this context, the Project could accommodate future land use intensification along the railroad corridor. These changes in land use would likely occur within a high quality transit area identified by SCAG thereby encouraging more compact forms of development (e.g., TOD) within existing urban areas. Additionally, as described in Table 4-1, construction of the Project could support additional transit infrastructure (e.g., double tracking) within the railroad corridor. In the longer-term, the RPRP could serve as the backbone for future transit extensions to the north, south, and east of the Redlands Corridor. In considering these collective factors, the Project could indirectly facilitate infill growth and related secondary effects beyond opening day in 2018 and the forecast year of 2038.

This analysis incorporates by reference the programmatic analysis provided in SCAG's RTP/SCS (2012) PEIR, which identifies the Redlands Corridor as a high-quality transit area (HQTA). The RTP/SCS targets infill development for HQTAs and acknowledges that intensification of land use in these areas could result in the following types of secondary effects:

- Construction-related and operational impacts to air quality from ozone precursors, particulate matter, toxic air contaminants (TACs), and greenhouse gases (GHGs);
- Increases in the ambient noise environment;
- Increased traffic delay and intersection congestion;
- Potential land use incompatibilities and conflicts;
- Potential impacts to special-status biological resources, wetlands, and vegetation, and other sensitive communities;
- Potential impacts to historical and/or archaeological resources; and
- Increased demands for public services and utility infrastructure.

It is important to emphasize that the Project in of itself would not directly increase growth or the secondary effects thereof. Rather, the degree of indirect growth accommodation resulting from the provision of public transit infrastructure would largely be within the land use authority of San Bernardino, Redlands, and Loma Linda. The Project would serve existing development within Redlands and San Bernardino along with future planned and unplanned developments. Given

that SANBAG retains no land use authority beyond its ROW, there is no feasible mitigation that SANBAG could otherwise adopt to condition new development to avoid or minimize the secondary effects identified above. In this context, these secondary effects of growth could remain significant and unmitigable.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

CEQA requires that irreversible and irretrievable commitment of resources be addressed for certain categories of projects, including the "[t]he adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency" and any project also subject to NEPA. (State CEQA Guidelines CCR Sections 15127[a] and 15127[c].) NEPA requires that an environmental analysis include identification of "…any irreversible and irretrievable commitment of resources which would be involved in the proposed action should it be implemented." (Section 102 [42 USC Section 4332(c)]).

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that this use could have on future generations. Commitments of resources could be current, as well as future, the latter potentially associated with the secondary effect of growth-inducing impacts. Irreversible effects result primarily from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural resource).

Resources such as timber used for the construction of station improvements and the layover facility, are generally considered renewable and would ultimately be replenished. Human resources are also considered a renewable resource. Non-renewable resources such as petrochemical construction materials, steel, copper, lead and other metals, gravel, concrete, and other materials are typically considered finite and would not be replenished over the lifetime of the project.

The construction and implementation of the Project would entail the irreversible and irretrievable commitment of some land and energy and human resources, including labor required for the planning, design, construction, and operation of the Project. These resources include the following:

- Commitment of land within and immediately outside the railroad right-of-way (ROW) to accommodate passenger rail service, including proposed rail, station, bridge, layover facility, and roadway improvements;
- Commitment of natural resources during construction activities associated with the Project, including the use of construction materials (e.g., steel, concrete, etc.); and
- Consumption of nonrenewable energy resources, mainly diesel and electricity, as a result of construction, operation, and maintenance of the proposed improvements.

In terms of the Project's commitment to land, the land within the Study Area is largely designated as existing rail or roadway ROW and the Project would commit a majority of the land to its continued use for transportation use. Conversion of the land within the footprint to additional railroad ROW (area not previously included as current SANBAG ROW) represents a short-term action that would have a long-term effect on the land's productivity. Over the long

term, the productivity of the land would not be available to other uses. However, it could have a long-term beneficial effect on the productivity of the rail operations through added railway safety and the availability of passenger rail service resulting in shorter travel time. However, properties located adjacent to the SANBAG ROW proposed for full acquisition would be irreversibly committed to the Project, and affected property owners would be compensated at fair market value for the amount of property acquired.

In terms of the Project's commitment of resources, there are several resources, both natural and built, that would be expended in the construction and operation of the Project. The Project would result in a short term increase in the use of energy to manufacture, deliver, and construct the proposed improvements. The manufacturing of materials used to construct the Project (e.g., ballast and rail ties, etc.) and energy in the form of natural gas, petroleum products, and electricity consumed during construction and operation would contribute to the incremental depletion of renewable and non-renewable resources. Existing ballast and sub-grade materials would be reused, to the extent possible, to serve as fill material to raise the site of the proposed layover facility. Steel, concrete, and other materials would be recycled, to the extent feasible. However, the loss of these resources is considered irreversible because their reuse for some other purpose than the Project would be highly unlikely or impossible. Based on these considerations, the Project constitutes an irreversible and irretrievable commitment of natural resources.

In the long term, the Project would not significantly increase the use of energy for rail transport of people or goods. The proposed improvements are likely to improve the reliability and efficiency of passenger and freight train transportation. The use of non-renewable energy sources during project operations, such as diesel fuel is considered an irreversible, irretrievable commitment of these petroleum resources. However, this commitment is based on the minimal amount of these resources that would be consumed in relation to the energy resources available and otherwise used under the No Build condition (e.g., existing transit and VMT).

5.3 RELATIONSHIP BETWEEN SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

NEPA requires a review of the balance between short-term uses and long-term productivity of resources within a project area. Potential impacts that narrow the range of beneficial uses to the environment include selecting a development option that reduces the ability to pursue other possibilities, or committing a piece of land or other resources to a particular use that limits additional uses being performed on the same site.

Effects on resources are often characterized as being short-term or long-term in duration. Impacts that occur only during construction are considered temporary. Impacts that occur within a period of three years or less would be considered a short-term use and in excess to three years would be considered long-term. Construction can create temporary water quality effects and increases in noise, emissions, traffic, and human population that can disturb resources in an area but subside when the work is complete. Long-term effects relate to the maintenance and enhancement of long-term productivity—in particular, the consistency of the Project with long-term economic, social, regional, and local planning objectives. These impacts may lead to permanent loss or degradation of resources. As required by Public Resources Code Section 21001(g), the short and long-term effects of the Project under consideration are summarized below.

5.3.1 Short-Term Uses

Implementation of the Project would result in temporary and short-term construction-related impacts. As discussed elsewhere in this EIS/EIR, the temporary and short-term construction impacts would affect all resource areas to some extent, but would be associated predominantly with water quality, traffic, land acquisitions, aesthetics, air quality emissions, noise and vibration, biological resources, and cultural and historical resources. SANBAG would implement mitigation measures identified in each environmental resource area to reduce these impacts to a less than significant level wherever feasible and available. At the same time, however, construction of the Project would create economic benefits during construction, in the form of jobs and the subsequent direct and indirect demand for goods and services.

5.3.2 Long-Term Uses

Implementation of the Project would result in long-term impacts related to the division of an established community; visual quality and aesthetics; noise and vibration; and flooding risks. However, long-term economic productivity in the Cities of San Bernardino and Redlands would be substantially enhanced through new passenger rail service.

5.4 LESS THAN SIGNIFICANT IMPACTS OF THE BUILD ALTERNATIVES AND DESIGN OPTIONS

In the course of this evaluation, certain resources were found to be not adverse under NEPA or significant under CEQA due to the Project's geographic location, context, or the absence of project characteristics producing effects to this resource. In accordance with CEQA Guidelines Section 15128, the following provides a brief description of additional resource issue areas that the Project would not impact and therefore not further discussed in the EIS/EIR.

Agriculture and Forest Resources

The Project would be implemented within and adjacent to the SANBAG corridor. The railroad corridor is not subject to Williamson Act contracts. Based on the farmland maps prepared by the California Department of Conservation, the Study Area is not identified as containing Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Study Area is identified as Urban and Built-Up Land (California Department of Conservation 2010). According to the Farmland Mapping and Monitoring Program, Urban and Built-Up Land is typically occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. Common examples include residential, industrial, commercial, and institutional facilities; cemeteries; airports; golf courses; sanitary landfills; sewage treatment facilities; and water control structures. Based on these circumstances, the Project would not convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance to non-agricultural uses.

There are no existing forest lands, timberlands, or timberland zoned Timberland Production either on-site or in the immediate vicinity of the Study Area; therefore, the Build Alternatives and Design Options would not conflict with existing zoning of forest land, cause rezoning of any forest land, or adversely affect forest lands.

According to the City of Redlands General Plan, citrus farming was Redlands' original economic base and remains a small, but not insignificant, component of the economy. Despite a two-thirds decline in acreage during the previous 30 years, approximately 30 percent of the existing citrus

is within the East Valley Corridor Area (EVCSP). The Specific Plan for this area (EVCSP) calls for conversion of agricultural land for commercial and industrial development over a 40-year period. Citrus groves currently owned by the City of Redlands which are proposed to remain in citrus include the Prospect Park Grove, Judson Grove, Fifth Avenue Grove, Interstate 10 (I-10)/California Grove, Texas Webster Grove, Palmetto/Nevada Grove, Olive Avenue Grove, and San Bernardino/ Wabash Grove. The I-10/California Grove is located within the Study Area. Based on the City of Redlands General Plan (Figure 3.2-1B), the General Plan land use designation of the I-10/California Grove is Agriculture. However, as shown in Figure 3.2-2, the I-10/California Grove is zoned for commercial uses. As a consequence, the Project would not conflict with existing zoning for agricultural use.

Implementation of the Project would result in the loss of up to two rows of the citrus grove. However, this loss is not considered a significant impact to agricultural resources as a majority of the citrus grove's site acreage would remain unaltered. In addition, the I-10/California Grove is bound by existing and planned urban uses on all four sides of the property. Based on these considerations, the Project would not involve other changes in the existing environment that would result in the conversion of productive agricultural land to non-agricultural use.

Based on these circumstances, the Project would result in no significant impacts to agricultural and forest resources.

Mineral Resources

A variety of land uses are located adjacent to the railroad corridor, including industrial, commercial, retail, and office uses. According to City of San Bernardino General Plan, the western half of the Study Area is located within a Mineral Resource Zone (MRZ) 2 designated area, where the available geologic information indicates the likelihood of significant mineral deposits. MRZ-2 designated areas indicate the potential existence of construction aggregate deposits that meets certain state value and marketability criteria based solely on geologic factors. The Project is not within an Industrial Extractive (IE) zone used for mineral, sand, and gravel extraction. Therefore, mineral extraction is not permitted within the Study Area. Considering the "existing developed land uses" within the area, a MRZ reclassification may occur, rendering the area unsuitable for mineral production (City of San Bernardino, 2005). Therefore, the Project would result in no impact related to mineral resources.

Utilities and Service Systems

Various public and/or private utilities encroach across SANBAG's ROW. These facilities may require relocation or encasement depending on if they conflict with new track and grade crossing improvements, replacement or retrofit of existing bridges, and the development of limited station amenities at E Street, Tippecanoe Avenue (or Waterman), New York Street, Downtown Redlands, and the University of Redlands. Impacts to utilities within the Study Area would depend on rail elevation or ROW changes. In some locations fire hydrants, meter boxes, and power poles may need to be relocated depending on construction of project components. Service disruption would likely occur to underground utilities at railway crossings and median areas in locations that require construction of a signal arm which call for deep footings. These service interruptions would be temporary in nature.

The underground utilities and service connections would be identified prior to commencing any excavation work through the implementation of an Underground Services Alert. The exact utility locations will be determined by hand-excavated test pits dug at locations determined and approved by the construction manager. Coordination with the utility providers during final engineering design and implementation of appropriate installation methods would minimize

potential utility service disruptions. Upon completion of construction activities, there would be no disruption to existing utilities and infrastructure during operation. Impacts would be less than significant.

5.5 ALTERNATIVES COMPARISON

The selection of Alternatives as described in Chapter 2, including optional modes of transit, to support the Project was based on several factors including each alternative's ability to meet the project goals and objectives identified in Chapter 1. The alternatives screening process consisted of two major steps:

Step 1: Define the range in modes of transit to facilitate a comparative evaluation under the first tier of the alternatives analysis. The analysis was done as part of the initial selection of alternatives to be considered in the EIS/EIR.

Step 2: Evaluate the operational and constructability of each mode of transit based on the consideration of the following criteria:

- ***Technical and Engineering Feasibility.*** An alternative must be technically and physically feasible. An alternative must be based on existing and accepted engineering concepts and practices. Also, an alternative must not be dependent upon either the availability or acquisition of site locations that cannot be reasonably assured.
- ***Environmental Fatal Flaw.*** An alternative cannot have environmental impacts that are so significant as to negate the positive attributes of the alternative, or simply transfer potential environmental impacts from one location to another.
- ***Economic Feasibility.*** An alternative cannot be economically impractical or infeasible. An alternative should be economically attractive such that the total direct costs are minimized and do not significantly exceed the costs of alternatives with similar benefits. Similarly, an alternative cannot result in excessive operation and maintenance costs.
- ***Public Health and Safety.*** An alternative should be able to meet all existing and anticipated future State and Federal health and safety requirements.
- ***Timing.*** An alternative must be capable of being implemented within a reasonable timeframe such that the benefits and needs of the project are not unduly delayed.
- ***Institutional.*** An alternative cannot possess significant uncertainty that all permits, licenses, or other logistical requirements can be reasonably obtained.

Each of the three Build Alternatives and three Design Options defined in Chapter 2 would be capable of achieving the criteria above; whereas, the alternatives rejected from consideration in Chapter 2 would not satisfy one or more of the listed criteria. Table 5-1 provides a summary of the attributes for each of the Build Alternatives and Design Options considered, including the main quantitative differences. Based on these differences, each alternative and design option would minimize, lessen, or avoid one or multiple adverse effects identified for the Preferred Project (Alternative 2).

Table 5-1. Summary of Differentiators Between Build Alternatives and Design Options

Alternative/ Design Option	Acreage of Disturbance	Type of Service	Partial/Full Acquisitions/TCEs	Layover Facility	Other Features
Alternative 1 – No Build	Existing ROW	Freight (only)	--	--	Replace Bridges 1.1 and 3.4
Alternative 2 – Preferred Project	137.3 acres	Local and Express Passenger and Freight	58/4/60	West of California Street	Replace Bridges 1.1, 3.4, 5.78, 9.4
Alternative 3 – Reduced Project Footprint	130.1 acres	Local and Express Passenger and Freight	58/4/60	West of California Street	Reduced construction area along Mission Zanja Channel and I-10/California Orange Grove
Design Option 1 – Train Layover at Waterman Ave.	143.3 acres	Local and Express Passenger and Freight	58/2/60	East of Waterman Avenue	Optional Train Layover Site
Design Option 2 – Use of Existing Layover Facilities	129.5 acres	Local and Express Passenger and Freight	58/1/60	Existing IEMF/ EMF	Use of Existing Layover Facilities; Longer Train Trips
Design Option 3 – Waterman Avenue Rail Station	139.0 acres	Local and Express Passenger and Freight	57/5/60	West of California Street	Optional rail station at Waterman Avenue

Source: HDR Engineering 2013

Table 5-2 provides a comparative summary of the environmental impacts identified for the Build Alternative's and Design Options where different (lesser or greater) based on the analysis presented in Chapter 3. The summary presented in Table 5-2 compares Alternative 2, Preferred Project against the No Build Alternative, Design Options 1, 2, and 3, and the Reduced Project Footprint, (Alternative 3). Table 5-2 presents the finding of effect under NEPA and impact determination under CEQA based on the greatest magnitude of the impact identified for construction, operational, and indirect-related effects. In addition, Table 5-2 includes a brief statement as to the reasons for an associated reduction or increase in effect (and impact) between the alternatives and design options. These conclusions in turn then provide the basis for the selection of the Environmentally Superior Alternative which is identified in Section 5.7.

Table 5-2. Build Alternatives and Design Options Comparison Table

Environmental Issue Area [1]	Build Alternatives and Design Options					No-Build Alternative
	Alternative 2 – PP (NEPA and CEQA) [2]	Alternative 3 – RPF	Design Option 1	Design Option 2	Design Option 3	
Section 3.2 - Land Use and Planning – NEPA and CEQA Comparison						
Effect 3.2-1: Physically divide an established community or physically disrupt community cohesion.	AE/SU [4]	S [5]	S	S	S	L (No sound barriers proposed as mitigation)
Effect 3.2-2: Create incompatibility with on-site or adjacent land uses and zoning.	NAE/LTS	S	L (Layover facility placed on industrially zoned land)	L (No new layover facility)	S	L (No new facilities outside ROW)
Effect 3.2-3: Result in conflict or inconsistency with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project.	NAE/LTS	S	L (Layover facility placed on industrially zoned land)	L (No new layover facility)	S	G (Conflict with RTP/SCS)
Effect 3.2-4: Degrade the social or physical character of the community or quality of life of nearby neighborhoods.	NAE/LTS	S	L (Layover facility placed on industrially zoned land)	L (No new layover facility)	S	L (No new facilities outside ROW)
Effect 3.2-5: Displacement of residences and businesses.	NAE/LTS	L (Fewer number of TCEs and partial takes)	S	L (No new layover requires fewest number of full takes)	S	L (Contained within SANBAG ROW)
Section 3.3 - Transportation – NEPA and CEQA Summary						
Effect 3.3-1: Impact local traffic plans, policies, and standards.	NAE/LTS	S	S	S	S	G (Conflict with RTIP, RTP/SCS, and Long Range Transit Plan)

Table 5-2. Build Alternatives and Design Options Comparison Table

Environmental Issue Area [1]	Build Alternatives and Design Options					No-Build Alternative
	Alternative 2 – PP (NEPA and CEQA) [2]	Alternative 3 – RPF	Design Option 1	Design Option 2	Design Option 3	
Effect 3.3-2: Conflict with an applicable congestion management program.	NAE/LTS	S	S	S	S	G (No decrease in VMT)
Effect 3.3-3: Create or increase hazards from project design features.	NAE/LTS	S	S	S	S	L (No new facilities outside ROW)
Effect 3.3-4: Impacts to emergency response and access.	NAE/LTS	S	S	S	S	L (No new facilities outside ROW)
Effect 3.3-5: Adversely effect alternative forms of transit, including non-motorized facilities.	NAE/LTS	S	S	S	S	L (No new facilities outside ROW)
Section 3.4 - Visual Quality and Aesthetics – NEPA and CEQA Summary						
Effect 3.4-1: Changes to visual character or quality.	AE/SU	S	S	L (No new layover facilities)	S	L (No sound barriers)
Effect 3.4-2: New sources of nighttime lighting and glare.	NAE/LTS	S	S	L (No new layover facilities)	S	L (No new layover facilities)
Section 3.6 – Air Quality and Global Climate Change – NEPA and CEQA Summary						
Effect 3.5-1: Conflict with an air quality plan.	NAE/LTS	S	S	S	S	L (No increase in operational noise from trains)
Effect 3.5-2: Violate air quality standards.	NAE/LTS	S	S	S	S	L (No increase in operational noise from trains; construction next to Redlands Depot)

Table 5-2. Build Alternatives and Design Options Comparison Table

Environmental Issue Area [1]	Build Alternatives and Design Options					No-Build Alternative
	Alternative 2 – PP (NEPA and CEQA) [2]	Alternative 3 – RPF	Design Option 1	Design Option 2	Design Option 3	
Effect 3.5-3: Possible risk to sensitive receptors.	NAE/LTS	S	S	L (No new layover facilities)	S	L (No operational changes)
Effect 3.5-4: Create objectionable odors.	NAE/LTS	S	S	L (No new layover facilities)	S	L (No operational changes)
Effect 3.5-5: Generate greenhouse gas.	NAE/LTS	S	S	S	S	L (No operational changes)
Section 3.6 - Noise and Vibration – NEPA and CEQA Summary						
Effect 3.6-1: Permanent increase in ambient noise levels.	AE/SU	S	S	L (No new layover facilities)	S	L (No operational changes)
Effect 3.6-2: Create excessive groundborne vibration or noise.	NAE/LTS	S	S	L (No new layover facilities)	S	L (No operational changes)
Section 3.7 - Biological and Wetland Resources – NEPA and CEQA Summary						
Effect 3.7-1: Loss and degradation of habitat for special-status wildlife species and potential direct take of individuals.	NAE/LTS	L (Reduction in physical disturbance along Mission Zanja Channel)	S	S	S	L (No bank improvement along Mission Zanja Channel)
Effect 3.7-2: Loss and degradation of habitat for special-status plant species and potential direct take of individuals.	NAE/LTS	L (Reduction in physical disturbance along Mission Zanja Channel)	S	S	S	L (No bank improvement along Mission Zanja Channel)
Effect 3.7-3: Loss and degradation of waters of the U.S., including wetlands, and waters of the state.	NAE/LTS	L (Less impacts to waters of U.S. and State)	S	S	S	L (No bank improvement along Mission Zanja Channel)
Effect 3.7-4: Potential interference with wildlife or fisheries movement.	NAE/LTS	L (Less impacts to vegetation as a result of footprint reduction)	S	L (Less impacts to vegetation with use of existing layover facilities)	S	L (No bank improvement along Mission Zanja Channel)

Table 5-2. Build Alternatives and Design Options Comparison Table

Environmental Issue Area [1]	Build Alternatives and Design Options					No-Build Alternative
	Alternative 2 – PP (NEPA and CEQA) [2]	Alternative 3 – RPF	Design Option 1	Design Option 2	Design Option 3	
Effect 3.7-5: Loss of sensitive natural communities.	NAE/LTS	S	S	S	S	L (No facilities outside SANBAG's ROW)
Effect 3.7-6: Conflict with local ordinances and policies protecting biological resources.	NAE/LTS	S	S	S	S	L (No work outside SANBAG's ROW)
Section 3.8 – Floodplain, Hydrology, and Water Quality – NEPA and CEQA Summary						
Effect 3.8-1: Alteration of drainage patterns resulting in off-site flooding.	NAE/LTS	S	G (Increase in impervious surface up to 5 acres)	L (Reduced Impervious surface area to 11.7 acres)	S	L (No new impervious surfaces)
Effect 3.8-2: Exceeding the capacity of existing or planned drainage systems.	NAE/LTS	S	S	L (No new layover facilities)	S	L (No facilities outside SANBAG's ROW)
Effect 3.8-3: Placement of structures or encroachment within a 100-year floodplain	AE/SU	S	S	L (Layover Facility located outside 100-year floodplain)	S	L (No new structures within the 100-year Floodplain)
Effect 3.8-4: Violation of water quality standards.	NAE/LTS	S	S	S	S	G (No correction of existing drainage)
Effect 3.8-5: Alteration of drainage patterns resulting in off-site erosion and sedimentation.	NAE/LTS	S	S	L (No new layover facilities)	S	L (No facilities outside SANBAG's ROW)
Effect 3.8-6: Contribute substantial sources of polluted runoff.	NAE/LTS	S	S	L (No new layover facilities)	S	L (No facilities outside SANBAG's ROW)

Table 5-2. Build Alternatives and Design Options Comparison Table

Environmental Issue Area [1]	Build Alternatives and Design Options					No-Build Alternative
	Alternative 2 – PP (NEPA and CEQA) [2]	Alternative 3 – RPF	Design Option 1	Design Option 2	Design Option 3	
Section 3.9 – Geology, Soils, and Seismicity – NEPA and CEQA Summary						
Effect 3.9-1: Possible risks to people and structures caused by strong seismic ground shaking and liquefaction	NAE/LTS	S	S	L (No new layover facilities)	S	L (No facilities outside SANBAG's ROW)
Effect 3.9-2: Possible risks to people and structures caused by landslides.	NAE/LTS	S	S	S	S	G (No correction of existing drainage)
Effect 3.9-3: Substantial soil erosion or loss of topsoil	NAE/LTS	S	G (Layover facility subject to liquefaction hazards)	L (No new layover)	S	L (No new facilities)
Effect 3.9-4: Unstable geologic conditions	NAE/LTS	S	S	L (No new layover facilities)	S	L (No facilities outside SANBAG's ROW)
Effect 3.9-5: Exposure to potential hazards from problematic soils	NAE/LTS	S	S	L (No new layover facilities)	S	L (No facilities outside SANBAG's ROW)
Section 3.10 - Hazardous Waste and Materials – NEPA and CEQA Summary						
Effect 3.10-1: Possible risk to the environment through the routine transport of hazardous materials.	NAE/LTS	S	S	L (No new layover facilities)	S	L (No facilities outside SANBAG's ROW)
Effect 3.10-2: Possible risk to the environment through an accidental release.	NAE/LTS	S	S	L (No new layover facilities)	S	L (No facilities outside SANBAG's ROW)

Table 5-2. Build Alternatives and Design Options Comparison Table

Environmental Issue Area [1]	Build Alternatives and Design Options					No-Build Alternative
	Alternative 2 – PP (NEPA and CEQA) [2]	Alternative 3 – RPF	Design Option 1	Design Option 2	Design Option 3	
Effect 3.10-3: Hazardous emissions within close proximity of a school site.	NAE/LTS	S	S	S	S	L (No facilities outside SANBAG's ROW)
Effect 3.10-4: Disturbance to known hazardous materials sites.	NAE/LTS	S	S	S	S	L (No construction beyond existing ROW)
Effect 3.10-5: Possible impediment to emergency plans	NAE/LTS	S	S	S	S	L (No facilities outside SANBAG's ROW)
Effect 3.10-6: Possible risk to people of wildland fires.	NAE/LTS	S	S	S	S	L (No facilities outside SANBAG's ROW)
Section 3.11 - Energy – NEPA and CEQA Summary						
Effect 3.11-1: Conflict with adopted energy conservation plans, including Executive Order 13514.	NAE/LTS	S	S	S	S	G (No long-term decrease in VMT)
Effect 3.11-2: Use non-renewable resources in a wasteful and inefficient manner.	NAE/LTS	S	S	S	S	G (No long-term decrease in VMT)
Section 3.12 - Cultural and Historic Resources – NEPA and CEQA Summary						
Impact 3.12-1: Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.	NAE	L (Avoids California/I-10 Grove)	S	S	S	L

Table 5-2. Build Alternatives and Design Options Comparison Table

Environmental Issue Area [1]	Build Alternatives and Design Options					No-Build Alternative
	Alternative 2 – PP (NEPA and CEQA) [2]	Alternative 3 – RPF	Design Option 1	Design Option 2	Design Option 3	
Impact 3.12-2. Impacts to Historical Resources Listed Under the CRHP.	LTS	L	S	S	S	L
Impact 3.12-3. Adverse Effects to Archaeological Resources.	LTS	S	S	S	S	L
Section 3.13 - Parklands, Community Services and Other Public Facilities – NEPA and CEQA Summary						
Effect 3.13-1: Physical impacts or alterations to government facilities.	NAE/LTS	L (Effects to Sylvan Park minimized through constrained roadway design)	S	S	S	L (Noise barriers not required for mitigation)
Effect 3.13-2: Impact to service ratios, response times, or other performance objectives.	NAE/LTS	S	S	S	S	L (No new facilities)
Section 3.14 - Economic and Fiscal Impacts – NEPA Summary[3]						
Effect 3.14-1: Employment, income, and tax revenues.	B	S	S	S	S	L (No direct or indirect economic benefits)
Section 3.15 - Safety and Security – NEPA and CEQA Summary						
Effect 3.15-1: Increased pedestrian and/or bicycle safety risks.	NAE/LTS	S	S	S	S	L
Effect 3.15-2: Substantial adverse safety conditions related to accidents	NAE/LTS	S	S	S	S	L

Table 5-2. Build Alternatives and Design Options Comparison Table

Environmental Issue Area [1]	Build Alternatives and Design Options					No-Build Alternative
	Alternative 2 – PP (NEPA and CEQA) [2]	Alternative 3 – RPF	Design Option 1	Design Option 2	Design Option 3	
Effect 3.15-3: Potential for adverse security conditions.	NAE/LTS	S	S	S	S	L

1. Resource areas where recognizable differences exist between the Build Alternatives and Design Options.
2. The NEPA finding and CEQA determination for the Preferred Project following the application of proposed mitigation. Each findings/determination reflects the greatest magnitude of impact as described for the collective direct construction, direct operational, and indirect impacts in Chapter 3.
3. Economic and fiscal effect findings applies only to NEPA.
4. Acronyms for the NEPA finding and CEQA determination are as follows:

   NEPA Findings
   AE Adverse Effect
   NAE No Adverse Effect

   CEQA Determinations
   SU Significant and Unmitigable
   LTS Less than Significant
   B Beneficial Impact
5. In comparing the alternatives and design options to the Preferred Project, the corresponding effects are identified as follows: Similar (S); Greater (G); or Lesser (L).

5.6 SIGNIFICANT AND UNMITIGABLE ENVIRONMENTAL EFFECTS

CCR Section 15216.2(b) of the State CEQA Guidelines requires EIRs to include a discussion of any significant environmental impacts that cannot be avoided if the project is implemented. Chapter 3 of this EIS/EIR provides a detailed analysis of all significant environmental impacts related to the Project; identifies feasible mitigation measures, where available, that could avoid or reduce these significant impacts; and presents a determination whether these mitigation measures would reduce these impacts to less than significant levels. Chapter 4 identifies the significant cumulative impacts resulting from the combined effects of the Project and related projects considered in cumulative analysis. If a specific impact in either of these sections cannot be fully reduced to a less than significant level, it is considered a significant and unmitigable adverse impact.

As described below in Sections 3.2 through 3.17, project implementation would result in significant and unmitigable adverse impacts in the following six issue areas: land use and planning; long-term visual quality and aesthetics; noise and vibration; floodplain and hydrology; cultural and historic resources; and environmental justice. Each of these significant impacts would be cumulatively considerable when considered with other incremental projects (listed in Table 4-1) thereby contributing to a significant cumulative impacts see Chapter 4). The following adverse effects would be significant and unmitigable for each of the Build Alternatives and Design Options:

- **Effect 3.2-1.** Physically Divide an Established Community or Physically Disrupt Community Cohesion. The Project would divide established communities and temporarily disrupt community cohesion (Indirect Adverse Effect) (under CEQA only).

- **Effect 3.4-1.** Changes to Visual Character or Quality. Implementation of the Project could substantially degrade the existing visual character or quality of the Study Area and their surroundings (Indirect Adverse Effect).
- **Effect 3.6-1.** Permanent Increase in Ambient Noise Levels. The Project would result in a permanent increase in ambient noise levels in the Study Area (Direct construction and operational increases in ambient noise levels).
- **Effect 3.8-3.** Placement of Structures or Encroachment within a 100-Year Floodplain. The Project would include the placement of structures within a 100-year flood hazard area, which could result in damage to proposed structures, existing structures downstream, or redirection of flood flows and corresponding inundation depths (Placement of transportation infrastructure within a 100-Year Flood Zone).

The following adverse effects would be significant and unmitigable for the No Build Alternative:

- **Effect 3.2-3.** Result in conflict or inconsistency with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project. The No Build Alternative is inconsistent with the regional land use and transportation goals of the 2012 RTP/SCS, which identifies the railroad corridor as a high quality transit corridor and specifically call for passenger rail service between the City of San Bernardino and Redlands. (Inconsistent with RTP/SCS and Long-Range Transit Plan).
- **Effect 3.3-1.** Impact Local Traffic Plans, Policies, and Standards. The No Build Alternative would not implement passenger rail service thereby resulting in further deterioration in LOS and V/C on local roadways. This would conflict with applicable City and County policies regarding the performance of the circulation system, including, but not limited to, intersections, streets, highways and freeways (Inconsistent RTIP and RTP/SCS).
- **Effect 3.3-2.** Conflict with the County CMP during construction. The lack of additional passenger rail service would have a direct effect to overall traffic circulation resulting in reduced LOS and increased V/C. Increases in delay as a result of decreases in the roadway intersection LOS and V/C would create an inconsistency with the City of San Bernardino standards, the Redlands General Plan, and the CMP.

5.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

This section identifies the Environmentally Superior Alternative from among the Alternatives and Design Options considered in the EIS/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 5-2, the No Build Alternative would avoid or lessen many of the construction and operational impacts identified for the Build Alternatives and Design Options. However, under the No Build Alternative, SANBAG would be unable to take advantage of its ownership of the railroad ROW by installing the necessary infrastructure to accommodate passenger rail service. Additionally, under the No Build Alternative, SANBAG would still be required to perform regularly scheduled maintenance of the existing track and corresponding improvements at grade crossings and Bridges 1.1 and 3.4 to facilitate continued freight service per SANBAG's obligations with BNSF. For this reason, construction-related adverse effects would not be eliminated. Further, the implementation of the No Build Alternative would be in conflict with SCAG's RTP/SCS, which would be a significant and unmitigable adverse effect.

Based on these considerations, including the fact that the No Build Alternative would result in adverse effects in of itself, the No Build Alternative was determined not to be environmentally superior.

Of the Build Alternatives and Design Options analyzed in Sections 3.2 through 3.17 the summary comparison provided in Table 5-2 suggests that Alternative 3, Reduced Project Footprint, would minimize adverse effects to biological and cultural resources. First, Alternative 3 would reduce both temporary and permanent impacts to USACE and CDFW jurisdictional areas by reducing the extent of bank improvements along the Mission Zanja Channel and including an alternate bridge design at Bridge 3.4. This reduction would reduce temporary and permanent impacts to USACE jurisdictional areas by 1.55 and 0.12 acres respectively. Alternative 3 would also avoid a majority of the direct impacts to the I-10/California Orange Grove, which is eligible for the CRHR.

In terms of the Design Options under consideration, Design Option 2 would result in the least amount of impact, due to its integration with existing train layover facilities. Since Design Options 1 and 3 would continue to incorporate new layover facilities, these design options would not avoid adverse effects related to the placement of the layover facility within a 100-year flood zone. Additionally, Design Option 2 would avoid the need for full property acquisitions to house the layover facility, extensive grading and drainage improvements to enable for the operation of new layover site, and a new source of nighttime lighting.

Based on these considerations, Alternative 3, Reduced Project Footprint would minimize the direct and indirect impacts to suitable LBV habitat located at the Santa Ana River and direct impacts to the I-10/California Orange Grove. Design Option 2 reduces some of the adverse effects related to the placement of a new layover facility; however, this design option would not result in the avoidance of any of the significant and unmitigable adverse effects identified for the Preferred Project. Although Design Option 2 would relocate the Project layover facilities at locations outside the 100-year floodplain, other Project-facilities would continue to remain subject to inundation from flooding (e.g., tracks and rail stations). For these reasons, Alternative 3, Reduced Project Footprint is considered the environmentally superior alternative under CEQA.