

EXECUTIVE SUMMARY

This Program Environmental Impact Report (EIR) is an evaluation of the environmental effects associated with the adoption and implementation of the 2050 Regional Transportation Plan including its Sustainable Communities Strategy (2050 RTP/SCS). This Program EIR has been prepared by the San Diego Association of Governments (SANDAG) in accordance with the California Environmental Quality Act of 1970 (CEQA) (Public Resources Code [PRC] Section 21000 et seq.), and the Guidelines for Implementation of CEQA (CEQA Guidelines) (14 California Code of Regulations Sections 15000 et seq.)

This EIR has been prepared as a Program EIR (CEQA Guidelines Section 15168(a). It **emphasizes** reflects the broad, regional nature of the 2050 RTP/SCS and its alternatives. Subsequent activities consistent with the 2050 RTP/SCS will be examined in light of this EIR to determine whether additional environmental documentation, such as a negative declaration, supplemental or subsequent EIR, or addendum, must be prepared. Where subsequent activities are within the scope of the Program EIR, and SANDAG, as the lead agency, finds no new effects would occur or no new mitigation measures would be required pursuant to CEQA Guidelines Section 15162, the subsequent project would be considered to be within the scope of the Program EIR and no further environmental documentation would be required.

ES.1 PROJECT SUMMARY

The 2050 Regional Transportation Plan/Sustainable Communities Strategy (2050 RTP/SCS or “The Plan”) is the blueprint for a regional transportation system, serving existing and projected residents and workers within the San Diego region (Figure 2.0-1) over the next 40 years, that further enhances quality of life and offers more mobility options for people and goods. The 2050 RTP/SCS looks 40 years ahead, accommodating another 1.2 million residents, half a million new jobs, and nearly 400,000 new homes. The 2050 RTP/SCS envisions most of these new jobs and homes situated in sustainable communities, conducive to transit, walking, and bicycling. To achieve this, future growth will be more compact in nature, focused in the western portion of the region and along major transit and transportation corridors. This more compact development pattern will create more active mixed-use communities, while allowing for the protection of more open space land in the eastern portion of the region.

As part of the regional transportation planning process, SANDAG also prepared a Sustainable Communities Strategy (SCS). Passed in 2008, Senate Bill (SB) 375 encourages planning practices that create sustainable communities. SB 375 charged the California Air Resources Board (CARB) with setting regional targets for greenhouse gas (GHG) emissions from passenger cars and light-duty trucks for 2020 and 2035. Pursuant to SB 375, each MPO is required to adopt an SCS as part of its RTP and, using the most recent planning assumptions, demonstrate achievement of the targets for reduction of GHGs. The purpose of an SCS is to align regional transportation, housing, and land use planning to reduce the amount of vehicle miles traveled to attain the regional GHG reduction target. If the SCS is unable to achieve the GHG reduction targets, the MPO is required to prepare an alternative planning strategy.

Building on the current (2010) transportation system with funding anticipated over the next 40 years, the 2050 RTP/SCS outlines projects for rail and bus services, highways, local streets, bicycling, and walking, as well as systems and demand management. The result will be an integrated, multimodal transportation system by mid-century. The 2050 RTP/SCS shows how the region will meet the GHG targets for passenger cars and light-duty trucks established by CARB for 2020 and 2035 by using land in a way that makes development more compact, conserving open space, and investing in a transportation network that reduces vehicle miles travelled and gives residents alternative transportation options.

The Draft 2050 RTP/SCS was circulated for public review from April 22, 2011, to July 8, 2011. The Draft Environmental Impact Report was circulated for public review from June 7, 2011 to August 1, 2011 released. At its meeting on September 16, the SANDAG Board of Directors reviewed the summary of comments and discussed potential changes to the plan based on the public comments and other considerations. The Board of Directors identified modifications to the draft 2050 RTP/SCS to be considered for the Final 2050 RTP/SCS.

On October 28, 2011, the SANDAG Board of Directors will be asked to certify the Final EIR prepared for the 2050 RTP/SCS, make a finding that the 2050 RTP/SCS and the 2010 Regional Transportation Improvement Program, as amended, are in conformance with the State Implementation Plan for air quality, make a finding that the SCS achieves the GHG reduction targets established by CARB, and adopt the Final 2050 RTP/SCS.

Revisions made to the Draft EIR are shown throughout the Final EIR in strikethrough and underline text. Revisions to the 2050 RTP/SCS project description are detailed in Chapter 2.0. A complete discussion of project description changes can be found in Appendix G, Response to Comments, in Master Response 13.

ES.2 PROJECT LOCATION

The project boundary of the RTP/SCS includes the entire San Diego region, which is composed of more than 4,200 square miles (see Figure 2.0-1). The region's borders are both political and geological. To the north, the region is bordered by Orange and Riverside counties, although largely separated from Orange County by Camp Pendleton. To the south of the region is the U.S. border with Mexico. The Pacific Ocean forms a natural border to the west, and the region shares a border with Imperial County to the east. The Island of Coronado lies west of the mainland in the Pacific Ocean and is connected by the Coronado Bridge.

ES.3 POTENTIAL AREAS OF CONTROVERSY

CEQA Guidelines Section 15123(b)(2) requires that an EIR contain a discussion of areas of controversy known to the lead agency, including issues raised by agencies and the public. The Notice of Preparation (NOP) for the EIR was distributed April 19, 2010 for a 30-day public review and comment period. The comment period was extended an additional 30 days to June 18, 2010 (refer to Appendix A for the NOP and NOP comment letters). A series of public workshops for the 2050 RTP/SCS and 2050 RTP/SCS EIR public scoping meetings were held April 2010. Finally, the Draft EIR for the 2050 RTP/SCS was distributed for public review on July 7 2011, initiating a 55-day public review period ending on August 1, 2010. The document was made available online and at SANDAG's office. During the public review period, a total of 18 letters and emails were received before the close of the public comment period. After the close of the public comment period, 4 more letters were submitted. Major issues and areas of controversy raised in the NOP comment letters as well as the public scoping meetings by agencies and the public included the following:

Project-Specific Concerns:

- The proposed 2050 RTP/SCS network, land use plan/growth projections and prioritization of funding and phasing of highway improvements, single occupancy vehicle or high occupancy vehicle (HOV) projects, public transit projects, and non-motorized transportation projects.
- Marketability and ridership levels for public transit projects.
- ~~Project phasing.~~

- Regional economic impacts and project financial feasibility.
- Frequency, reliability, accessibility, and affordability of public transit.
- Regional growth and land use impacts on quality of life factors, including transportation.
- Accessibility to employment and commercial centers, schools, and destination locations.
- Project's ability to meet the intent and goals of SB 375, AB 32, and EO S-3-5.
- The 2050 horizon year of the RTP/SCS and EIR.
- Methods for and transparency of SANDAG's transportation modeling

Environmental Analysis Impact Concerns:

- Level of detail of project description and impact analysis.
- Impacts to biological resources and special status species.
- Impacts to cultural resources.
- Impacts to hydrology and water quality.
- Land use compatibility with local airports, including accessibility to San Diego International Airport.
- Impacts to freight and rail services.
- Compatibility with local jurisdiction General Plans and land use plans.
- Transportation and circulation impacts, including trip time, VMT, and LOS.
- Impacts to public health.
- Impacts to air quality.
- Impacts Approach and methodology for assessing and mitigating impacts to GHG emissions, climate destabilization, sea level rise and climate change adaptation.
- Impacts to environmental justice populations.
- Impacts to public access to coastal areas.
- Impacts to parks and recreation facilities.
- Mitigation detail, responsibility and enforceability.
- Range of alternatives Alternatives analysis and additional options.

ES.4 ISSUES TO BE RESOLVED

CEQA Guidelines Section 15123(b)(3) requires that an EIR contain a discussion of issues to be resolved. Issues to be resolved in this EIR include choosing among alternatives to the RTP/SCS, and deciding whether and how to mitigate significant environmental impacts. Additionally, when approving the 2050 RTP/SCS, the SANDAG Board must decide whether the benefits of the project override those environmental impacts that cannot be feasibly avoided or substantially reduced; if so, the Board would adopt a Statement of Overriding Considerations.

ES.5 SUMMARY OF ENVIRONMENTAL IMPACTS

Table ES-2 provides a summary of environmental impacts, and mitigation measures, as applicable, and significance after mitigation. Table ES-1 below provides a summary of impacts that have been

determined to be significant and unavoidable (SU); significant impacts that can be mitigated (SM); and impacts that are less than significant without mitigation (LTS). Impacts summarized in Table ES-1 are provided for each horizon year and project component (i.e., regional growth/land use change and transportation network improvements). Detailed analyses for these environmental impacts are provided in Sections 4.01 through 4.17. A detailed analysis of cumulative impacts is provided in Chapter 5.0.

Table ES-1
Summary of 2050 RTP/SCS Environmental Impacts

<u>Environmental Resource Impact</u>	<u>2020</u>		<u>2035</u>		<u>2050</u>	
	<u>Regional Growth/ Land Use change</u>	<u>Transportation Network Improvements</u>	<u>Regional Growth/Land Use change</u>	<u>Transportation Network Improvements</u>	<u>Regional Growth/Land Use change</u>	<u>Transportation Network Improvements</u>
4.1 Aesthetics and Visual Resources						
<u>VIS-1</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>VIS-2</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
4.2 Agricultural and Forest Resources						
<u>AG-1</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>AG-2</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>FR-1</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>FR-2</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
4.3 Air Quality						
<u>AQ-1</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>LTS</u>
<u>AQ-2</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>AQ-3</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>AQ-4</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>AQ-5</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
4.4 Biological Resources						
<u>BIO-1</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>BIO-2</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>BIO-3</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>BIO-4</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>
4.5 Cultural Resources						
<u>CULT-1</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>
<u>CULT-2</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>PALEO-1</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>
4.6 Environmental Justice						
<u>EJ-1</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>EJ-2</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>
4.7 Geology, Soils, and Mineral Resources						
<u>GEO-1</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>GEO-2</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>GEO-3</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>
<u>GEO-4</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>MR-1</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
4.8 Greenhouse Gas Emissions						
<u>GHG-1</u>	<u>LTS</u>	<u>LTS</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>SU</u>
<u>GHG-2</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	*	*
<u>GHG-3</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>

<u>Environmental Resource Impact</u>	<u>2020</u>		<u>2035</u>		<u>2050</u>	
	<u>Regional Growth/Land Use change</u>	<u>Transportation Network Improvements</u>	<u>Regional Growth/Land Use change</u>	<u>Transportation Network Improvements</u>	<u>Regional Growth/Land Use change</u>	<u>Transportation Network Improvements</u>
4.9 Hazards and Hazardous Materials						
<u>HM-1</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>HM-2</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>HM-3</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>HM-4</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>HM-5</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>HM-6</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>HM-7</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>HM-8</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
4.10 Hydrology and Water Quality						
<u>WQ-1</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>WQ-2</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>
<u>WQ-3</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>WQ-4</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>WQ-5</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
4.11 Land Use						
<u>LU-1</u>	<u>LTS</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>LU-2</u>	<u>LTS</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
4.12 Noise						
<u>N-1</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>N-2</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>N-3</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>N-4</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>N-5</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>N-6</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
4.13 Population and Housing						
<u>PH-1</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>PH-2</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>	<u>SU</u>
<u>PH-3</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
4.14 Public Services, Utilities, and Energy						
<u>PS-1</u>	<u>SM</u>	<u>LTS</u>	<u>SM</u>	<u>LTS</u>	<u>SM</u>	<u>LTS</u>
<u>US-1</u>	<u>SM</u>	<u>LTS</u>	<u>SM</u>	<u>LTS</u>	<u>SM</u>	<u>LTS</u>
<u>US-2</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>
<u>US-3</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>LTS</u>
<u>US-4</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>US-5</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>	<u>SM</u>
4.15 Recreation						
<u>REC-1</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>LTS</u>
<u>REC-2</u>	<u>SM</u>	<u>LTS</u>	<u>SM</u>	<u>LTS</u>	<u>SM</u>	<u>LTS</u>
4.16 Transportation and Traffic						
<u>T-1</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>T-2</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>
<u>T-3</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>SU</u>	<u>SU</u>
<u>T-4</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>SU</u>	<u>SU</u>
<u>T-5</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>	<u>LTS</u>

<u>Environmental Resource Impact</u>	<u>2020</u>		<u>2035</u>		<u>2050</u>	
	<u>Regional Growth/Land Use change</u>	<u>Transportation Network Improvements</u>	<u>Regional Growth/Land Use change</u>	<u>Transportation Network Improvements</u>	<u>Regional Growth/Land Use change</u>	<u>Transportation Network Improvements</u>
4.17 Water Supply						
<u>WS-1</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>LTS</u>	<u>SU</u>	<u>SU</u>
<u>WS-2</u>	<u>SM</u>	<u>LTS</u>	<u>SM</u>	<u>LTS</u>	<u>SM</u>	<u>SM</u>

Significant and Unavoidable Impacts

Based on the analysis throughout Section 4 of this EIR, implementation of the 2050 RTP/SCS would result in significant and unavoidable environmental impacts in the following environmental issue areas:

4.1 — Aesthetics and Visual Resources

~~VIS 1: Block panoramic views or views of significant landscape features or landforms.~~

~~VIS 2: Substantially degrade the character of an area~~

4.2 — Agricultural and Forest Resources

~~AG 1: Convert FMMP-designated farmland to non-agricultural uses.~~

~~AG 2: Conflict with existing agricultural uses, Williamson Act contract lands, and lands designated under the California Farmland Conservancy Act.~~

~~FR 2: Result in loss of forest land.~~

4.3 — Air Quality

~~AQ 1: Conflict with or obstructing the implementation of applicable air quality plans;~~

~~AQ 2: Violate air quality standards contribute substantially to an existing or projected air quality violation.~~

~~AQ 3: Result in a cumulatively considerable net increase of emissions of nonattainment pollutants.~~

~~AQ 4: Expose sensitive receptors to substantial pollutant concentrations.~~

4.4 — Biological Resources

~~BIO 1: Impact any sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service; or on federally protected wetlands.~~

~~BIO 2: Impact any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.~~

~~BIO 3: Impact the movement of any native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors, or the use of native wildlife nursery sites.~~

4.7 — Geology, Soils, and Mineral Resources

~~MR 1: Result in the loss of availability of known mineral resources.~~

4.8 — Greenhouse Gas Emissions

~~GHG 1: Increase GHG emissions. Significant and unavoidable impacts occur in horizon years of 2035 and 2050.~~

4.9 — Hazards and Hazardous Materials

~~HM 8: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires.~~

4.11 — Land Use

~~LU 1: Directly or indirectly cause substantial deterioration of community cohesion or character, including substantial residential or business displacement.~~

~~LU 2: Substantially conflict or impede the implementation of existing land use plans, including general plans, specific plans, and applicable regional plans.~~

4.12 — Noise

~~N 1: Expose persons to or generate noise levels in excess of standards established in local general plans or noise ordinances or applicable standards of other agencies.~~

~~N 2: Expose persons to or generate vibration levels in excess of applicable standards.~~

~~N 3: Cause a permanent substantial increase in ambient noise levels.~~

~~N 4: Cause a substantial temporary or periodic increase in ambient noise levels.~~

4.13 — Population and Housing

~~PH 1: Induce substantial population growth.~~

~~PH 2: Displace existing housing or businesses.~~

4.14 — Public Services, Utilities, and Energy

~~US 3: Be served by landfills with insufficient permitted capacity to accommodate the project's solid waste disposal needs.~~

4.15 — Recreation

~~REC 1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.~~

4.16 — Transportation and Traffic

~~T 3: Substantially decrease the percentage of non-work-related trips accessible within 15 minutes. Significant and unavoidable impacts occur in horizon year 2050.~~

~~T 4: Substantially increase the congested vehicle miles travelled (LOS E and F) in peak periods (3 percent or greater). Significant and unavoidable impacts occur in horizon year 2050.~~

4.17 — Water Supply

~~WS 1: Increase the use of existing available water supplies or water treatment and other facilities such that water supplies or facilities would be inadequate to serve existing and projected future demand.~~

5.0 Cumulative

~~Cumulatively considerable and unavoidable impacts would occur for the following resources: Aesthetics and Visual Resources; Agriculture and Forest Resources; Air Quality; Biological Resources; Geology, Soils, and Mineral Resources; GHG Emissions; Hazards and Hazardous Materials; Land Use; Noise; Population and Housing; Public Services and Utilities; Recreation; Transportation and Traffic; and Water Supply.~~

~~Potentially feasible mitigation measures included in this EIR are listed in Table ES-1. Even with implementation of mitigation measures, the above environmental impacts would remain significant and unavoidable.~~

Significant Impacts that can be Mitigated

~~Based on the analysis throughout Section 4 of this EIR, implementation of the 2050 RTP/SCS would result in the significant impacts that can be mitigated to a level less than significant in the following environmental issue areas:~~

4.4 — Biological Resources

~~BIO-4: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, state, or federal regulations, policies, ordinances, or plans.~~

4.5 — Cultural Resources and Paleontology

~~CULT-1: Cause a substantial adverse change in the significance of a cultural resource.~~

~~PALEO-1: Directly or indirectly destroy a unique paleontological resource or site or unique geological feature.~~

4.6 — Environmental Justice

~~EJ-2: Disproportionately high human health or environmental impacts~~

4.7 — Geology, Soils, and Mineral Resources

~~GEO-3: Result in substantial soil erosion or the loss of topsoil.~~

4.10 — Hydrology and Water Quality

~~WQ-2: Substantially alter the existing drainage pattern of the site or area~~

4.14 — Public Services, Utilities, and Energy

~~PS-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for any of the public services.~~

~~US-1: Require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities to adequately meet projected capacity needs, the construction of which could cause a significant environmental effect.~~

~~US-2: Require or result in the construction of new storm water drainage facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects.~~

~~US 5: Require or result in the construction of new natural gas, electricity, or transportation fuel facilities or the expansion of existing facilities to adequately meet projected capacity needs, the construction of which could cause a significant environmental effect.~~

~~4.15 — Recreation~~

~~REC 2: Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.~~

~~4.17 — Water Supply~~

~~WS 2: New water treatment or distribution facilities or the expansion of existing facilities.~~

Impacts Identified as Less than Significant

Based on the analysis throughout Section 4 of this EIR, implementation of the 2050 RTP/SCS would result in less than significant impacts without mitigation in the following environmental issue areas:

~~4.2 — Agricultural and Forest Resources~~

~~FR 1: Result in the loss of timberland.~~

~~4.3 — Air Quality~~

~~AQ 5: Expose a substantial number of people to objectionable odors.~~

~~4.5 — Cultural Resources and Paleontology~~

~~CULT 2: Disturb any human remains.~~

~~4.6 — Environmental Justice~~

~~EJ 1: Result in substantially fewer mobility benefits to environmental justice communities.~~

~~4.7 — Geology, Soils, and Mineral Resources~~

~~GEO 1: Expose people or structures to potential substantial significant impacts, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic related ground failure, liquefaction, and landslides;~~

~~GEO 2: Locate projects on a geologic unit or soil that is unstable;~~

~~GEO 4: Locate projects on expansive soil.~~

~~4.8 — Greenhouse Gas Emissions~~

~~GHG 2: Conflict with SB 375 GHG emission reduction targets GHG 3 Conflict with applicable GHG reduction plans.~~

~~4.9 — Hazards and Hazardous Materials~~

~~HM 1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;~~

~~HM 2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;~~

~~HM 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one quarter mile of an existing or proposed school;~~

~~HM 4: Be located on hazardous materials sites;~~

~~HM 5: Result in a safety hazard for people residing or working in the project area for projects located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport;~~

~~HM 6: Result in a safety hazard for people residing or working in the project area for projects within the vicinity of a private airstrip or helipad;~~

~~HM 7: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.~~

4.10 — Hydrology and Water Quality

~~WQ 1: Violate any water quality standards or waste discharge requirements;~~

~~WQ 3: Place within a 100-year flood hazard area structures that would impede or redirect flood flows;~~

~~WQ 4: Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam;~~

~~WQ 5: Expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow.~~

4.12 — Noise

~~N 5: Expose people residing or working in the project area to excessive noise levels for a project within the vicinity of a private airstrip.~~

~~N 6: Expose people residing or working in the project area to excessive noise levels for a project located within an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport~~

4.13 — Population and Housing

~~PH 3: Impede implementation of the regional housing share allocation, including any local jurisdiction's adopted housing element.~~

4.14 — Public Services, Utilities, and Energy

~~US 4: Cause noncompliance with federal, state, and local statutes and regulations related to solid waste.~~

4.16 — Transportation and Traffic

~~T 2: Substantially decrease the percentage of work and higher education trips accessible within 30 minutes in peak periods;~~

~~T 5: Impede times for emergency access and response.~~

**Table ES-2
Summary of Environmental Impacts and Mitigation Measures**

Individual development projects would be reviewed for project specific impacts during any environmental review. If project specific significant impacts are identified, applicable mitigation measures would be placed on the project as conditions of approval. Impacts apply to horizon years 2020, 2035, and 2050 unless noted otherwise.

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
4.1 AESTHETICS AND VISUAL RESOURCES/VISUAL RESOURCES/AESTHETICS				
VIS-1 Panoramic Views Implementation of the 2050 RTP/SCS would result in land uses changes and the construction of transportation network improvements that would block panoramic views or views of significant landscape features or landforms. (Significant)	VIS-A During planning, design, and CEQA review of development projects implementing the 2050 RTP/SCS growth forecast, and transportation projects included as part of the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should ensure that projects are designed to minimize contrasts in scale and massing between the project and surrounding natural forms and developments. The projects should avoid, if possible, large cuts and fills when the visual environment (natural or urban) would be substantially disrupted. Projects should be sited or designed to minimize their intrusion into important viewsheds and use contour grading to better match surrounding terrain.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
	VIS-B During planning, design, and CEQA review of development projects implementing the 2050 RTP/SCS growth forecast, and transportation projects included as part of the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should ensure that projects use natural landscaping to minimize contrasts between the project and surrounding areas. Wherever possible, the implementing agency should <u>design transportation improvements, included highway expansions, extensions, and develop interchanges, and transit lines, and arterial improvements</u> at the grade of the surrounding land to limit view blockage <u>to the extent feasible</u> . Project designs should contour the edges of major cut-and-fill slopes to provide a more natural-looking finished profile.			
	VIS-C During planning, design, and CEQA review of development projects implementing the 2050 RTP/SCS growth forecast, and transportation projects included as part of the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should ensure landscaping design along highway corridors to add significant natural elements and visual interest to soften the hard-edged, linear travel experience that would otherwise occur.			
	VIS-D During or immediately following construction of development projects implementing the 2050 RTP/SCS growth forecast, and transportation projects included as part of the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should replace and renew landscaping to the greatest extent possible along corridors with road widenings, interchange projects, and related improvements. The implementing agency			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	should plan landscaping in new corridors to respect existing natural and man-made features and to complement the dominant landscaping of surrounding areas.			
VIS-2 Visual Character New development and infill redevelopment, and the construction of transportation network improvements, would substantially alter the character of existing areas, including adding a visual element of urban character to an existing rural or open space area. (Significant)	VIS-E During construction of development projects implementing the 2050 RTP/SCS growth forecast, and transportation projects included as part of the 2050 RTP/SCS, SANDAG shall and other the implementing agencies can and should ensure sound walls <u>berms or alternative noise reduction mechanisms, such as creating buffer zones, planting vegetation, or alternative pavement types</u> are constructed of materials whose color and texture complement the surrounding landscape and development. Design of the sound walls <u>or alternative noise reduction mechanisms</u> should use color, texture, landscaping, and alternating façades to “break up” large façades and provide visual interest.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
4.2 AGRICULTURE AND FOREST RESOURCES				
AG-1 FMMP-Designated Land Regional growth and land use changes and the construction of transportation network improvements would both convert Prime Farmland, Farmland of Statewide Importance, and Unique Farmland to nonagricultural use. (Significant)	AG-A For jurisdictions with FMMP-designated lands or agricultural resources, local governments can and should support the acquisition or voluntary dedication of agriculture conservation easements and <u>other programs that preserve agricultural lands, including the creation of farmland mitigation banks</u> . Local governments would be responsible for encouraging the development of agriculture conservation easements <u>or farmland mitigation banks, purchasing conservation agreements or farmland for mitigation</u> , and ensuring that the terms of the <u>conservation easement agreements</u> are upheld. AG-B SANDAG shall and other implementing agencies can and should reduce potential conflicts with agricultural operations through the incorporation of adequate buffers, setbacks, and project design measures to protect surrounding agriculture, such as roadways, topographic features, and open space.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
AG-2 Agricultural Uses Regional growth and land use changes and transportation network improvements would both conflict with land with agricultural uses, lands with Williamson Act contracts, and conservation easements created through the California Farmland Conservancy Act. (Significant)	See Mitigation Measures AG-A and AG-B above.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
FR-1 Timberland The San Diego region does not contain any lands designated as “timberland” or as a TPZ. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
FR-2 Forest Land Regional growth and land use changes and transportation network improvements would result in a direct loss of forest land as impacts would occur to sensitive vegetation communities. (Significant)	FR-A During the design and CEQA review of development projects and transportation network improvements implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should avoid impacting forest lands. Due to limited logging of forest lands in the San Diego region, the main reason to preserve forest land is to preserve quality native habitat. Where such impacts are unavoidable, the project design goal shall be replacement with equal or better quality habitat to ensure no net loss of the resource. Mitigation ratios for project-level impacts shall be determined through consultation with resource agencies and reference to applicable HCP/NCCP subarea plans. FR-B When off-site mitigation is needed, SANDAG shall and other implementing agencies can and should provide it through acquisition and restoration (using EMP and other mitigation funds) of lands contiguous with areas of native habitat to maximize the biological value of the habitat provided as mitigation. Habitat acquisitions shall be coordinated with resource agencies and regional habitat conservation and planning efforts such as the MSCP and MHCP.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
4.3 AIR QUALITY				
AQ-1 Air Quality Attainment Plans RTP/SCS emissions would be greater than the emissions anticipated by the 8-hour O ₃ attainment plan, the O ₃ SIP, and the CO SIP. (Significant)	<u>AQ-A1</u> For land use plans and projects, cities in the San Diego region and San Diego County can and should assess increases in ozone precursors during project-specific design and CEQA review, and mitigate significant increases to the extent feasible. Measures described in Mitigation Measure GHG-B would also generally be applicable to ozone precursors, since most measures reducing GHG emissions also reduce ozone precursor emissions. Specifically, at the plan level, land use plans should, when appropriate, incorporate planning and land use measures from the California Attorney General’s latest list of example policies to address climate change (http://ag.ca.gov/globalwarming/pdf/GP_policies.pdf), including, but not limited to policies from that web page such as: <ul style="list-style-type: none"> • Smart growth, jobs/housing balance, transit-oriented development, and infill development through land use designations, incentives and fees, zoning, and public-private partnerships • Create transit, bicycle, and pedestrian connections through planning, funding, 	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p><u>development requirements, incentives and regional cooperation, and create disincentives for auto use</u></p> <ul style="list-style-type: none"> • <u>Energy and water-efficient buildings and landscaping through ordinances, development fees, incentives, project timing, prioritization, and other implementing tools</u> <p><u>In addition, they should also incorporate, when appropriate, policies to encourage implementation of the Attorney General’s list of project specific mitigation measures available at the following web site: http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf, including, but not limited to measures from the web page such as:</u></p> <ul style="list-style-type: none"> • <u>Adopt a comprehensive parking policy that discourages private vehicle use and encourages the use of alternative transportation</u> • <u>Build or fund a major transit stop within or near development</u> • <u>Provide public transit incentives such as free or low-cost monthly transit passes to employees, or free ride areas to residents and customers</u> • <u>Incorporate bicycle lanes, routes and facilities into street systems, new subdivisions, and large developments</u> • <u>Require amenities for non-motorized transportation, such as secure and convenient bicycle parking.</u> <p><u>They should also incorporate, when appropriate, planning and land use measures from additional resources listed by the California Attorney General at the following web page: http://ag.ca.gov/globalwarming/ceqa/resources.php. No feasible mitigation.</u></p>			
<p>AQ-2 Air Quality Standards Regional growth and land use changes would contribute to air quality standard violations. The modeled emissions for the transportation improvements would be greater than the 2010 emissions of PM₁₀ and PM_{2.5}, which the area is designated as state nonattainment for PM₁₀ and PM_{2.5}. (Significant)</p>	<p>AQ-A2 During project-specific design and CEQA review, SANDAG shall and other implementing agencies can and should incorporate <u>project-appropriate</u> the following dust control measures into project specifications, including but not limited to the following:</p> <ul style="list-style-type: none"> • Minimize land disturbance. • Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. • Suspend grading and earth moving when wind gusts exceed 25 mph unless the soil is wet enough to prevent dust plumes. • Cover trucks when hauling dirt. • Stabilize the surface of dirt piles if not removed immediately. • Limit vehicular paths on unpaved surfaces and stabilize any temporary roads. • Minimize unnecessary vehicular and machinery activities. • Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway. • Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities. 	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<ul style="list-style-type: none"> On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications. 			
AQ-3 Net Increase in Nonattainment Pollutants Regional growth/land use changes and transportation improvements would cause net increases in PM ₁₀ and PM _{2.5} emissions. (Significant)	AQ-B If project-level analysis demonstrates that NO _x emissions would be significant, during project-specific design and CEQA review, SANDAG shall and other implementing agencies can and should provide a plan, for approval by the implementing agency or jurisdiction, demonstrating that the heavy-duty (>50 horsepower) offroad vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will utilize all feasible measures to reduce the <u>NO_x</u> emissions to a less than significant level. Acceptable options for reducing emissions may include use of late model engines, low emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. The project representative shall submit to the implementing agency or jurisdiction a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide the implementing agency or jurisdiction with the anticipated construction timeline, including start date, and name and phone number of the project manager and on-site foreman.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
AQ-4 Expose Sensitive Receptors to Substantial Pollutant Concentrations Regional growth/land use changes and transportation network improvements would expose sensitive receptors to substantial pollutant concentrations. (Significant)	AQ-C <u>Transportation Network Improvements</u> For transportation network improvements, during During project-specific design and CEQA review, SANDAG shall and other implementing agencies can and should evaluate the potential localized CO impacts of each project using procedures and guidelines contained in the CO Protocol (UCD ITS 1997) to determine the level of local CO “hot spot” analysis required (qualitative or quantitative) at the project level, if any, for the project. If required from the project analysis, mitigation measures are <u>would be</u> added to the project design concept or scope to reduce local CO emissions. <u>For transportation network improvements, during project-specific design and CEQA review, SANDAG shall and other implementing agencies can and should evaluate the potential localized particulate (PM10 and PM2.5) impacts and their health risks of project using procedures and guidelines for PM hotspot analysis consistent with USEPA (2010) PM guidance. If required from the project analysis, mitigation measures would be added to the project design concept or scope to reduce local particulate (PM10 and PM2.5) emissions. Per USEPA (2010) PM guidance, potential mitigation measures to be considered include but are not limited to: providing a retrofit program for older higher</u>	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p><u>emitting vehicles, anti-idling requirements or policies, controlling fugitive dust, routing traffic away from populated zones, and replacing older buses with cleaner buses.</u></p> <p><u>Land Use Plans and Development Projects</u></p> <p><u>For land use plans and projects, cities in the San Diego region and San Diego County can and should assess health risks associated with CO and particulates during project-specific design and CEQA review, and mitigate them to the extent feasible. These assessments should focus on sensitive communities already experiencing high levels of air pollution and related diseases, and on other sensitive receptors.</u></p> <p><u>For development projects, mitigation measures to reduce air pollution-related health risks include but are not limited to:</u></p> <ul style="list-style-type: none"> <u>• Avoiding siting new sensitive land uses within 500 feet from the right of way of a freeway</u> <u>• Implementing the construction mitigation measures listed in Mitigation Measures AQ-A2 and AQ-B</u> <u>• Buffering residential, public assembly, and other sensitive land uses from industrial uses generating air pollutants that may pose public health risks</u> <u>• Including landscaping, barriers, ventilation systems, and air filters or cleaners in project designs</u> <p><u>Health Risk Assessments for Projects Involving Transportation Network Improvements or Land Use Plans and Development Projects</u></p> <p><u>During project specific design and CEQA review, SANDAG shall and other implementing agencies can and should require, where warranted, the completion of health risk assessments using dispersion modeling. A health risk assessment (HRA) is the quantitative evaluation of the risk of cancer (and sometimes non-cancer health effects) that may result from human exposure to pollutants such as toxic air pollutants. HRAs are complex and typically involve emissions quantification, air dispersion modeling, and risk modeling. Dispersion modeling is a modeling tool capable of predicting concentrations of pollutants in air in the vicinity of the pollutant sources. It is typically used to predict PM concentrations at receptor locations around a source of PM. AERMOD and CALPUFF are two of several dispersion modeling tools.</u></p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
AQ-5 Objectionable Odors Implementation of the 2050 RTP/SCS would not expose a substantial number of people to objectionable odors. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
4.4 BIOLOGICAL RESOURCES				
BIO-1 Sensitive Natural Communities Implementation of the 2050 RTP/SCS would result in land uses changes and the construction of transportation network improvements that would both cause a substantial adverse change to sensitive natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service; or regulated wetlands as defined by Section 404 of the Clean Water Act or resources regulated by the CDFG under California Fish and Game Code §1600 et. seq. through direct removal, filling, hydrological interruption, or other means. (Significant)	BIO-A During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should avoid impacting sensitive vegetation communities. Where unavoidable, compensatory mitigation for impacts shall be required as specified through consultation with resource agencies and in approved Multiple Species Conservation Program (MSCP) or Multiple Habitat Conservation Program (MHCP) documents; and the County of San Diego’s Biological Mitigation Ordinance (BMO), Resource Protection Ordinance (RPO), County of San Diego Guidelines for Determining Significance for Biological Resources, and <u>Habitat Loss Permit (HLP) ordinance, ordinance, City of San Diego’s Environmentally Sensitive Lands (ESL) regulations, City of Chula Vista’s Habitat Loss and Incidental Take (HLIT) regulations, and all other NCCP implementing ordinances</u> -for all vegetation communities. Compensatory mitigation is intended to result in the establishment of self-sustaining sensitive vegetation communities, replacing the lost habitat and/or habitat value, as required to offset those lost to the impacts and meet the requirements of all applicable agency and adopted plans, ordinances, and policies. Appropriate mitigation ratios and maintenance and monitoring requirements will be determined by these plans and/or ordinances, depending on the location of the impact and the affected sensitive vegetation community. Remedial measures that may be required typically include, but are not limited to, replanting, reseeding, grading adjustments, supplemental irrigation, access control, increased weed control, and extended maintenance and monitoring periods. Consistent with the above plans and ordinances, compensatory mitigation <u>outside the Coastal Zone</u> may be provided either through the purchase of credits at an existing authorized mitigation bank or in lieu fee program, or through project-specific mitigation. <u>Compensatory mitigation for impacts inside the Coastal Zone may not be satisfied through in lieu fee programs and should occur within the Coastal Zone as close as is feasible to the impact. To the extent allowed by the above plans and ordinances, project specific mitigation may be provided through on-site restoration of temporary impacts, on-site or off-site preservation of existing habitats, or off-site restoration. On-site or off-site restoration areas used as mitigation should be maintained and monitored for a minimum of 5 years, but maintenance and monitoring shall continue until required success criteria are achieved. If the restoration is not meeting success criteria, remedial measures shall be implemented and would typically include, but are not limited to, replanting, reseeding, grading adjustments,</u>	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p><u>supplemental irrigation, access control, increased weed control, and extended maintenance and monitoring periods. After final success criteria have been met and relevant permitting agencies have approved the mitigation project as complete, all mitigation areas be permanently conserved (e.g. conservation easement) and managed in perpetuity. As the CEQA lead agency, SANDAG shall and other lead agencies can and should review and approve all restoration plans prior to their implementation.</u></p> <p>Impacts to other sensitive vegetation communities that may occur as the result of implementing this measure include direct loss and indirect effects.</p> <p>BIO-B During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should avoid impacting jurisdictional wetlands and other waters (including jurisdictional vernal pools). Where unavoidable, such impacts shall be mitigated. Mitigation may be provided either through the purchase of credits at an existing authorized mitigation bank or in lieu fee program, or through project-specific mitigation <u>Compensatory mitigation for impacts inside the Coastal Zone may not be satisfied through in lieu fee programs and should occur within the Coastal Zone as close as is feasible to the impact.</u> The mitigation ratio for jurisdictional wetlands shall be a minimum of 2:1 for the permanent loss of acreage to provide for no net loss of wetlands, however, project-level consultation with USACE and CDFG may result in a higher ratio. A minimum mitigation <u>on-site mitigation/restoration</u> ratio of 1:1 shall be provided for temporary impacts, unless USACE and CDFG determine otherwise higher ratio. A mitigation and monitoring plan completed per the requirements of USACE and CDFG shall be prepared for all impacts to jurisdictional waters. This plan shall include details regarding site appropriateness, preparation (e.g., grading), recontouring, planting specifications (including seed mixes and plant palettes), and irrigation design (if determined necessary), as well as maintenance and monitoring procedures (including monitoring period and reporting). Impacts to other sensitive vegetation communities that may occur as the result of implementing this measure include direct loss and indirect effects related to changes in hydrology and species composition. The plan shall also identify locally appropriate plant species for the mitigation/restoration plan, and outline yearly success criteria and remedial measures should the mitigation effort fall short of the success criteria. Success criteria shall be sufficient to create self-sustaining habitat providing the functions and values required to offset those lost to the impacts and meet the requirements of all applicable agency and adopted plans, ordinances, and policies. Remedial measures typically include, but are not limited to, replanting, reseeding, grading adjustments, supplemental irrigation, access control, increased weed control, and extended maintenance and monitoring periods.</p> <p>BIO-C During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should include implementation of location-specific measures to avoid and minimize construction-and/or operation-generated dust, erosion, runoff, and sedimentation within or into</p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p>habitats. Projects shall implement appropriate water pollution control technology and BMPs to avoid or minimize impacts to downstream aquatic systems. Such measures and BMPs may include, but are not limited to, construction fencing, site watering, silt fencing, gravel bags, stabilized construction entrances, straw wattles, erosion control blankets, temporary seeding, soil polymers, and similar measures. All mitigation measures related to soil erosion, sedimentation, and dust control contained in other sections of this report shall also be followed.</p> <p>BIO-D During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should minimize <u>limit</u> all grading and earth-moving activities outside of <u>within</u> the planned transportation facility footprint. Construction staging and access areas shall be located in previously disturbed and/or developed areas to the greatest extent feasible. <u>All construction materials, staging, storage, dispensing, fueling, and maintenance activities shall be located in upland areas outside of sensitive habitat, and adequate measures shall be taken to prevent any potential runoff from entering jurisdictional waters. Fueling of equipment shall take place within existing paved roads. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.</u> All construction activities shall be monitored by qualified biologists when construction is occurring in, or adjacent to, sensitive habitat or areas suitable for special status species, and the biologist shall be granted the authority to stop work if it deviates from approved plans and mitigation measures. <u>The qualified biologist shall ensure that construction staging, equipment, and fencing are not directing wildlife towards roadways or urban areas and that some functional wildlife movement is maintained in situations where construction may bisect contiguous habitat.</u> The biologist shall possess relevant expertise for the affected resources and shall be approved by the CEQA lead agency for the project.</p> <p>Temporary impact areas shall be revegetated with native plants to conditions equal to or biologically superior to the pre-impact condition at the direction of a habitat restoration specialist and in keeping with local ordinances and requirements, even if compensatory mitigation for the impacts is provided elsewhere. Revegetation areas shall be maintained and monitored for a minimum of 2 years but shall continue until desired conditions are achieved. As the CEQA lead agency, SANDAG shall and other agencies should review and approve the restoration plan prior to its implementation. Revegetation of temporary impact areas may be used as a component of the required compensatory mitigation if it complies with the requirements for such mitigation and is approved by the CEQA lead agency and all other agencies with permit authority over the habitat.</p> <p>BIO-E When off-site mitigation is needed, during the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing</p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p>agencies can and should provide off-site mitigation through acquisition and restoration (using EMP and other mitigation funds) of lands contiguous with areas of native habitat to maximize the biological value of the habitat provided as mitigation, through purchase of relevant habitat credits at an approved mitigation bank, or through payment into an approved in-lieu mitigation fee program applicable to the impacts (<u>in lieu fee programs shall not be used to provide mitigation for impacts located within the Coastal Zone</u>). <u>When mitigation is provided outside of an adopted NCCP/HCP the following conditions shall apply to the maximum extent practicable: mitigation lands will be connected to existing conserved open space; consideration will be given to contributing in the establishment of large blocks of habitat or lands which are otherwise critical for covered species and/or providing for biological core areas and habitat linkages consistent with current regional conservation planning goals; and impacts to critical habitat will be mitigated within the same Critical Habitat Unit where the impacts occurred. Mitigation lands must be protected in perpetuity (e.g. through a conservation easement or similar legal protection) and adequately managed to maintain the originally intended biological quality and function in perpetuity.</u> Habitat acquisitions, bank purchases, or fee program payments shall be coordinated with resource agencies and regional habitat conservation and planning efforts such as the MSCP and MHCP.</p>			
<p>BIO-2 Sensitive or Special Status Species Implementation of the 2050 RTP/SCS would result in land uses changes and the construction of transportation network improvements that would both cause a substantial adverse change to species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service due to loss of critical habitat. (Significant)</p>	<p>BIO-F During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should consult the resource agencies, regional databases, and local agencies to identify the current list of special status wildlife species occurrences and areas of occupied special status species habitat. Focused surveys for species shall be conducted as required by resource agency protocols (e.g., arroyo toad or least’s Bell vireo) or consultation within suitable habitat and during the appropriate field conditions for detection prior to any activity that may result in impacts. Surveys shall be conducted by a qualified biologist approved by the CEQA lead agency. Special status species without survey protocols will be recorded as observed during other focused and/or reconnaissance surveys during the appropriate field conditions for detection. <u>If an individual project has the potential to result in “take“ of a special status wildlife species, all appropriate take authorizations (e.g. Section 2081 Incidental Take Permit, Section 7) will be acquired prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations.</u> Projects shall be designed to minimize or eliminate impacts to known special status wildlife species and implement species-specific avoidance, minimization, and/or mitigation measures.</p> <p>BIO-G During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should consult the resource agencies to identify known special status plant species occurrences. <u>If an individual project has the potential to result in “take“ of a special status plant species, all appropriate take authorizations (e.g. Section 2081 Incidental Take Permit, Section</u></p>	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p><u>7) will be acquired prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations.</u> Project designs shall reduce direct impacts to special status plant species by avoidance whenever feasible. A species and habitat compensation plan shall be prepared for unavoidable direct impacts on special status plant species, and shall be reviewed and approved by the resource agencies and CEQA lead agency prior to project approval. The plan shall identify effective methods for reestablishing the affected species and habitat, including but not limited to seed collection, salvage of root masses, and planting seeds and/or root masses in an area with suitable conditions. The plan shall also specify a monitoring program designed to evaluate success in reestablishing the affected species and habitat, and remedial measures that shall be followed if the project is not meeting specified performance criteria. The monitoring program shall be designed to evaluate the current and probable future health of the resources, and their ability to sustain populations in keeping with natural populations following the completion of the program. Remedial measures are highly dependent upon the species and habitats in question, but generally shall include but not be limited to exotic species management, predator control, access control, replanting and reseedling of appropriate habitat elements, regarding, and propagation and seed bulking programs.</p> <p>BIO-H During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should avoid any clearing of vegetation within the breeding season of special status wildlife species (e.g., raptors and migratory birds, generally February 1 through September 1; arroyo toad, March 15 through July 1; Laguna Mountains skipper and Quino checkerspot butterfly, generally late February to early March) to avoid impacts to species. If activities must occur during special status species breeding season timeframes, a preconstruction survey by a qualified biologist shall be conducted to determine whether the species of concern are present within the proposed work area. If the species of concern are found on-site, the project shall implement measures to avoid impacts. Such measures shall be identified by project-specific CEQA documents, project permits, or the project biologist as necessary and may include delaying construction activities in all or part of the project until environmental conditions allow. For bird species, this is typically when nesting/fledging is complete. If construction activities must occur during the arroyo toad breeding season, a qualified biologist shall conduct preconstruction surveys and with wildlife agency approval translocate the arroyo toads and their eggs, tadpoles, or neonates to an area with appropriate habitat outside the construction limits. Translocation shall target the closest possible suitable habitat unless translocation to that location would transmit disease, exceed carrying capacities for the species, or cause other deleterious effects to the existing population at the translocation receiver site. If these translocation impacts to the receiver site are expected, other suitable sites without an existing arroyo toad population shall be considered for use as the receiver site, or compensatory mitigation shall be considered.</p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p>BIO-I During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should modify designs to avoid impacts to vernal pools occupied by San Diego or Riverside fairy shrimp whenever feasible. Unavoidable impacts to habitat occupied by San Diego or Riverside fairy shrimp shall be mitigated through enhancement of degraded pools (e.g., exotics control, recontouring, replanting of native species) and/or creation of more occupied pools (e.g., via grading of new pools and/or translocation of shrimp to existing unoccupied pools). Creation of new pools or enhancement of existing pools shall avoid or minimize to the greatest practicable extent any new impacts to vernal pools or their watersheds and to other sensitive vegetation communities.</p> <p>BIO-J During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should incorporate measures to avoid and minimize temporary and/or permanent indirect impacts to aquatic species from construction- and/or operation-generated dust, erosion, runoff, and sedimentation within or into habitats supporting aquatic species. Such measures shall include implementation of Mitigation Measure BIO-C and location-specific measures as identified during project-specific review.</p> <p>BIO-K During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should incorporate measures to avoid and minimize temporary and/or permanent indirect impacts to terrestrial wildlife species. <u>Anticipated impact zones, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with stakes and flagging prior to construction to avoid natural resources where possible.</u> Such measures shall include noise attenuation measures if construction levels exceed preconstruction ambient noise levels within adjacent habitat as specified during project-specific review. Implement Mitigation Measures NO-1 through NOI-4 when permanent or temporary noise is identified as an impact to wildlife. Nighttime project lighting shall be directed at the project site or the construction site and away from sensitive habitats. Light glare shields shall be used to reduce the extent of illumination onto adjoining areas. Permanent lighting shall be shielded and directed at intended use areas. Fencing and/or walls shall be built to avoid temporary or permanent access of humans or domestic animals from development areas into areas occupied by special status species. <u>Spoils, trash, or any debris shall be removed offsite to an approved disposal facility. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as coyotes and feral dogs and cats that may prey on sensitive species. Workers shall be prohibited from bringing pets and firearms to the site.</u></p> <p>BIO-L See Mitigation Measures BIO-A through BIO-E.</p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
<p>BIO-3 Movement of Wildlife Species Implementation of the 2050 RTP/SCS would result in land uses changes and the construction of transportation network improvements that would both cause a substantial adverse change to movement of 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.(Significant)</p>	<p>BIO-M During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should conduct wildlife movement studies for projects that may fragment or constrict regional or local corridors and impede use to nursery sites. These studies will include, but would not be limited to, the following objectives: identify activity levels and directional wildlife movement trends within the study area, assess current functionality of existing underpasses, and determine what species or groups of species exhibit sensitivity to the existing roadways. Movement studies shall identify project-specific measures to avoid or mitigate impacts to corridors and movement to nursery sites that may include, but are not limited to, developing alternative project designs that allow wider movement corridors to remain; provide for buffer zones adjacent to corridors, such as passive recreation zones); implement physical barriers that prevent human and/or domestic predator entry into the corridor or block noise and lighting from development; incorporate shielded and directed lighting in areas near corridors; implement a “natives only” landscaping policy within 200 feet of identified wildlife corridors; incorporate periodic larger habitat patches along a corridor’s length; minimize the number of road crossings of identified wildlife corridors; and replace roadway culverts with bridges to allow for wildlife movement.</p>	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
	<p>BIO-N During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should provide for continued movement of wildlife by assisting wildlife navigation through or across barriers in areas where wildlife corridors and nursery sites are identified in this document, adopted HCP/NCCPs, or movement studies that identify evidence of wildlife movement. Bridges and/or other undercrossings that allow continued movement of wildlife shall be incorporated where roads or transit features would create barriers to wildlife movement and use of nursery sites. Size-class-specific crossing structures shall be evaluated for each species to ensure that crossings are functional for movement. Additionally, within aquatic habitat impacting fish corridors for species such as southern steelhead, aquatic barriers will be made passable for migratory fish species in order to have the functional effect of fish access to spawning and rearing habitats. <u>Directional fencing shall be considered to reduce vehicle mortality and guide wildlife to proposed bridges, undercrossings, and/or other crossing structures. Where fencing stops, the fence should extend and angle away from the roadways to deter wildlife from being funneled to roadways. Because it is not possible to install a continuous fence, one-way gates should be used so animals that do get around fence end runs can safely exit roadways.</u></p>			
	<p>BIO-O During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should provide for the maximum feasible continuing function of identified wildlife corridors by limiting edge effects of development. Corridor buffers, shielded and directed lighting,</p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p>fencing, restriction of nonnative species in landscaping, maintaining natural landforms, and similar measures shall be implemented as needed to maintain function. <u>Undercrossings and/or other crossing structures, such as culverts, may become filled with sand, silt, litter, debris, or dense vegetation rendering them unviable as corridors. Additionally, erosion can damage the integrity of directional fencing and the effectiveness of corridors can deteriorate over time. Therefore, fencing, undercrossings, and/or other crossing structures shall be monitored and maintained as needed to ensure corridor permeability and functionality. Development and implementation of a fencing and wildlife crossing structure maintenance plan is recommended to maintain permeability for wildlife across corridors.</u> Corridor design shall comply with all requirements of current HCP/NCCP planning documents and local ordinances including but not limited to the BMO.</p> <p>BIO-P Mitigation for impacts to wildlife nursery sites shall be accomplished by adherence to Mitigation Measures BIO-A through BIO-L.</p>			
<p>BIO-4 Habitat Conservation Plan/Natural Community Conservation Plan Implementation of the 2050 RTP/SCS would result in land uses changes and the construction of transportation network improvements that both conflict with the requirements of approved HCP/NCCPs or other local, regional, state, or federal regulations, policies, ordinances, or plans targeting the protection of biological resources. (Significant)</p>	<p>BIO-Q During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should modify designs to ensure the maximum feasible level of consistency with the policies in adopted HCPs, NCCPs, or other approved local, regional, or state conservation plans. If no feasible alternative exists that is consistent with conservation plans, the project proponent shall coordinate with USFWS, CDFG, and the appropriate local agency to provide full compensation of acreage and preserve function, retaining or improving upon the size, configuration, and habitat value of the preserve. Projects shall follow adopted procedures to process an amendment to the conservation plan(s) if necessary. In addition, all habitat-based mitigation required by the conservation plans shall be provided at ratios or quantities specified in the plans.</p> <p>BIO-R During the design and CEQA review of individual projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should minimize impacts to MSCP and MHCP covered species through implementation of Mitigation Measures BIO-F through BIO-L. Avoidance, minimization, and mitigation measures for covered species, consistent with adopted HCP and/or NCCPs, shall be implemented as specified during project-specific review. <u>Avoidance and minimization measures to covered species and their habitats shall include adherence to land use adjacency guidelines as outlined in adopted HCP and/or NCCPs.</u></p>	Less than Significant	Less than Significant	Less than Significant
4.5 CULTURAL RESOURCES AND PALEONTOLOGY				
<p>CULT-1 Cultural Resources Land use changes and the construction of transportation network improvements</p>	<p>CULT-A During CEQA review of development projects and transportation network improvement projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should conduct a review of literature and historic maps and a records search to determine whether the project area has been previously surveyed and whether cultural resources were identified. In the event that the records</p>	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
would result in ground-disturbing activities that are likely to adversely impact prehistoric or historic built cultural resources (Significant)	<p>indicate that no previous survey has been conducted, the <u>project implementing agency</u> shall <u>have a qualified cultural resource specialist conduct a survey of the project area, obtain a recommendation from a qualified cultural resources expert or an appropriate facility regarding the need for survey.</u> Specifically, the report shall explicitly state <u>the results of the literature study and site survey.</u> In addition, SANDAG shall and other implementing agencies can and should consult the <u>Native American Heritage Commission and any and all area tribes that have filed a claim in the Sacred Lands Inventory to identify potential places of cultural and/or religious importance or sites that may contain other cultural resources.</u> Resources that cannot be avoided will need to be evaluated, and if found significant, will require project-level <u>mitigation, whether the resource is eligible for either state or local historical registers.</u></p> <p>CULT-B Prior to construction of specific development projects and transportation network improvement projects implementing the 2050 RTP/SCS that would disturb a historic structure listed or eligible to be listed in the NRHP, the CRHR, or the San Diego County Local Register of Historical Resources, SANDAG shall and other implementing agencies can and should develop feasible project-level mitigation measures, identified in consultation with lead agencies and the State Historic Preservation Office as appropriate, to avoid or substantially reduce impacts to significant cultural resources. Feasible project-level mitigation measures include maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, relocation, or reconstruction of any impacted historic resource, which will be conducted in a manner consistent with the Secretary of the Interior’s Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.</p> <p>CULT-C During the planning, design, and environmental review phases of individual development projects and transportation network improvement projects implementing the 2050 RTP/SCS SANDAG shall and other implementing agencies can and should incorporate design measures in engineering documents to provide avoidance or minimization of impacts to significant archaeological resources. <u>Archaeological- or cultural resource sites identified as significant shall be avoided or mitigated by completion of a data recovery program conducted in compliance with CEQA and agency guidelines.</u></p> <p><u>Site avoidance and preservation can include capping the site with gravel or construction fabric and 16 to 18 inches of sterile fill soil. Sites proposed for capping shall be indexed so future researchers have reasonable knowledge of the resources that have been protected. Capped sites can be landscaped with native, shallow rooted plants that are compatible with the surrounding biologic habitat. Suggested capping methods should be communicated to Interested Tribes for their review and Tribal recommendations shall be considered to the maximum extent feasible as capping plans</u></p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p><u>are finalized. Passive uses for capped sites include trails, picnic areas, and play areas. Capped areas should not contain asphalt or landscaping with invasive root systems. sites identified as significant shall be avoided or mitigated by completion of a data recovery program conducted in compliance with CEQA and agency guidelines. Site avoidance and preservation can include capping the site with gravel or construction fabric and 16 to 18 inches of sterile fill soil. Sites proposed for capping shall be indexed so future researchers have reasonable knowledge of the resources that have been protected. Capped sites can be landscaped with native, shallow rooted plants that are compatible with the surrounding biologic habitat. Passive uses for capped sites include trails, picnic and play areas, parking lots, and tennis or volleyball courts.</u></p> <p>CULT –D During construction of specific development projects and transportation network improvement projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should require areas determined to be of cultural significance to be monitored during the grading phase of individual projects <u>by a qualified archeologist and Tribal monitor.</u></p> <p><u>SANDAG shall and other implementing agencies can and should retain a Tribal monitor (at historic rates of compensation) or tribal representatives designated by the Tribal Council or chairperson, if so requested, to accompany a qualified archeologist to identify, and determine the significance of, cultural resources and/or sacred lands. Both the archeologist and tribal monitor shall observe ground-disturbing activities and/or other scientific surveying that may occur in preparation for construction activities.</u></p> <p><u>Should an archaeological deposit and/or feature be encountered during construction activities, an Archaeological Data Recovery Program (ADRP) shall be prepared and implemented with consultation with Interested Tribes. Both the archeologist and tribal monitor should strive for agreement on the determined significance of an artifact or cultural resource. Once in agreement, either the archeologist or tribal monitor may divert or halt ground-disturbing activities for the purposes of implementing a data recovery program.-</u></p> <p><u>Should an archaeological deposit and/or feature be encountered during construction activities, an Archaeological Data Recovery Program (ADRP) shall be implemented. A data recovery program for archaeological sites consists of excavation of a percentage of the site (determined in consultation with the lead agency) to provide information necessary to answer significant research questions. Project implementation agencies shall integrate curation of all archaeological and/or historical artifacts and associated records in a regional center focused on the care, management, and use of archaeological collections. All Native American human remains and associated grave goods discovered shall be returned to their Most Likely Descendent</u></p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p><u>and repatriated. The final disposition of artifacts not directly associated with Native American graves will be negotiated during consultation with Interested Tribes. Artifacts include material recovered from all phases of work, including the initial survey, testing, indexing, data recovery, and monitoring. Curated materials shall be maintained with respect for cultures and available to future generations for research.</u></p> <p>CULT-E <u>Prior to construction of individual development projects and transportation network improvement projects implementing the 2050 RTP/SCS, SANDAG shall and other implementing agencies can and should consult with the NAHC and local tribes for each discretionary project at the onset and during the environmental review process and the preconstruction phases to determine if ethnographic resources and/or sacred lands are present within the project area, or its vicinity. Native American tribes shall be notified of project construction prior to obtaining grading permits and/or beginning ground-disturbing activities within a tribe’s traditional territory. SANDAG shall and other implementing agencies can and should request from Interested Tribes appropriate provisions to address the proper treatment of found cultural resources and Native American remains and consider including these provisions in applicable work plans to the maximum extent feasible.</u></p> <p><u>If cultural resources and/or sacred lands are present, SANDAG shall and other implementing agencies can and should communicate with Interested Tribes during the design, construction, operation, and decommissioning of the project. Prior to implementation of construction, SANDAG shall and other implementing agencies can and should communicate with Interested Tribes that place cultural significance on the project area. Outreach efforts between the Tribes and SANDAG or other implementing agencies shall be communicated quarterly during the design and construction phase for review and input. Where potential impacts are identified, grading and excavation activities shall avoid impacts to identified resources, as feasible. The project implementation agencies shall meet further requirements established by the NAHC, such as providing a procedure for the notification of “Most Likely Descendent” regarding the discovery of Native American human remains, and maintaining an inventory of sacred places.</u></p>			
	<p>CULT-F <u>If human or nonhuman remains are found, SANDAG shall and other implementing agencies can and should immediately suspend construction in the in the vicinity of the discovery and determine if the remains discovered are human or nonhuman. For human remains, the archeologist and Tribal monitor, if present, shall protect discovered remains and/or burial goods remaining in the ground from additional disturbances. In the event that the human remains are discovered to be Native American, project implementation agencies shall contact the NAHC so that a Most Likely Descendent can be identified as required under California Public Resources Code §5097.98. Through coordination with SANDAG (or other implementing agencies), the Most Likely Descendent will determine the ultimate disposition of the</u></p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<u>human remains in compliance with all applicable local, state, and federal laws. Whenever possible, areas in which Native American remains and/or burial goods are discovered shall be avoided and placed into protected open space.</u>			
CULT-2 Human Remains Ground-disturbing activities associated with the implementation of the 2050 RTP/SCS have the potential to uncover or disturb buried human remains. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
PALEO-1 Paleontological Resources and Unique Geological Features Ground-disturbing activities, such as construction associated with development, redevelopment, and/or expansion of infrastructure associated with the implementation of the 2050 RTP/SCS have the potential to directly or indirectly destroy a unique paleontological resource or site or unique geological feature. (Significant)	PALEO- A If it is determined during the environmental review process that development projects and transportation network improvement projects implementing the 2050 RTP/SCS would be located within an area of high or moderate paleontological resource sensitivity or near a known unique geological feature, and would remove at least 2,500 cubic yards of soil from a previously unearthened area, SANDAG shall and other implementing agencies can and should require a qualified researcher to be stationed on-site to observe during grading operations and recover scientifically valuable specimens or enforce avoidance of the unique geologic feature. A certified paleontologist or qualified researcher shall be retained (or required to be retained) by the project-implementing agency prior to construction to establish procedures for surveillance and the preconstruction salvage of exposed resources if fossil-bearing rocks or unique geologic features have the potential to be impacted. The monitor shall provide preconstruction coordination with contractors, oversee original cutting in previously undisturbed areas of sensitive geologic formations, halt or redirect construction activities as appropriate to allow recovery of newly discovered fossil remains, and oversee fossil salvage operations and reporting. This measure shall be placed as a condition on all grading plans where grading is proposed in geologic units defined as having a moderate or high potential for containing fossils.	Less than Significant	Less than Significant	Less than Significant
4.6 ENVIRONMENTAL JUSTICE				
EJ-1 Mobility Benefits and Communities of Concern Implementation of the 2050 RTP/SCS would not result in greater travel times and accessibility for minority populations, low-income populations, populations with low mobility, or populations	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
with low community engagement. (Less than Significant)				
EJ-2 Disproportionately High and Adverse Human Health or Environmental Impacts Environmental effects would result from the 2050 RTP/SCS that may accrue disproportionately to minority populations, low-income populations, populations with low mobility, or populations with low community engagement. (Significant)	EJ-A There is a potential for disproportionate impacts from the forecasted transportation network improvements and regional growth related to range of environmental impacts. These impacts would be highly localized, however, and analyses would be required at the project level to accurately ascertain any potential disproportionate impacts. Subsequent project-specific environmental review, including an environmental justice analysis, shall be completed per CEQA and NEPA, as applicable, to further analyze the forecasted improvements to determine how environmental impacts may accrue to communities of concern. In the event that environmental justice impacts are determined to occur, <u>SANDAG shall and other implementing agencies can and should develop mitigation</u> mitigation measures shall be developed that may include increased outreach to communities of concern, more culturally specific outreach strategies to target specific community of concern populations, the involvement of community leaders in project planning and/or design, or the establishment of working groups with community of concern members to help guide the development of the project and communicate project impacts to the community, among other mitigation measures developed at that time that may improve communication and involvement between the agency and community stakeholders.	Less than Significant	Less than Significant	Less than Significant
4.7 GEOLOGY, SOILS, AND MINERAL RESOURCES				
GEO-1 Seismic and Geologic Hazards Development and transportation facilities associated with the 2050 RTP/SCS would not result in significant impacts related to exposing people or structures to potential substantial significant impacts from fault rupture, ground shaking, ground failure and liquefaction, landslides. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
GEO-2 Unstable Soils Development and transportation facilities associated with the 2050 RTP/SCS would not result in	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
significant impacts to a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. (Less than Significant)				
GEO-3 Soil Erosion or Loss of Topsoil Development and transportation facilities associated with the 2050 RTP/SCS would expose soil to erosion or cause erosion from water runoff, particularly in erosion-prone areas such as steep hillsides or near coastal bluffs. (Significant)	GEO-A During project-specific design and CEQA review, SANDAG shall and other implementing agencies can and should develop detailed erosion control mitigation measures tailored to the project and site to be developed and included in the SWPPP upon application for a Construction General Permit. During construction, implementing agencies can and should avoid construction on unstable slopes and erosion-prone areas where possible, use special construction techniques to minimize erosion, and manage on-site grading to maximize the capture and retention of on-site runoff by creating perimeter ditches, trenches, siltation ponds, or similar depressions. Low-impact development (LID) design features, including drought-tolerant landscaping, shall be incorporated into each drainage design to the maximum extent practicable. Where permanent, postconstruction BMPs are specified (e.g., detention/retention systems), features shall be utilized for temporary sediment trap devices during construction. In addition, agencies can and should develop an erosion control and revegetation plan for the project site to delineate measures to minimize soil loss and prevent short-term and long-term significant soil erosion problems. Routine site inspections should be made to assess long-term effectiveness of soil erosion control.	Less than Significant	Less than Significant	Less than Significant
GEO -4 Expansive Soils Implementation of the 2050 RTP/SCS would result in regional growth development and transportation network improvements that would not result in significant impacts related to expansive soils. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
MR-1 Mineral Resources Development and transportation facilities	MR-A The 19 incorporated cities and the County of San Diego, when updating the Conservation Element of their General Plans, can and should identify locations with known mineral resources and adopt policies and objectives to conserve the land most suitable for mineral resource extraction from development of incompatible land uses.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
associated with the 2050 RTP/SCS would substantially decrease the amount of land available for mineral resource extraction in MRZ-2 locations, where known mineral resources are located. (Significant)	<p>MR-B Local jurisdictions shall pay particular attention to lands with known aggregate supply sources, as identified in the 2011 San Diego Region Aggregate Supply Study, with the intention to manage the region’s aggregate resources during the lifespan of the 2050 RTP/SCS.</p> <p>During project-specific design and CEQA review of transportation facilities, SANDAG shall and other implementing agencies can and should minimize impacts on known mineral resources through the evaluation of alternate route alignments and transportation facilities that conserve the land most suitable for mineral resource extraction from development of transportation uses. SANDAG and other implementing agencies shall pay particular attention to lands with known aggregate supply sources, as identified in the 2011 San Diego Region Aggregate Supply Study, with the intention to manage the region’s aggregate resources during the lifespan of the 2050 RTP/SCS.</p>			
4.8 GREENHOUSE GAS EMISSIONS				
<p>GHG-1 Increase GHG Emissions Implementation of the 2050 RTP/SCS would not substantially increase the GHG emissions from 2010 levels in 2020; however, implementation of the 2050 RTP/SCS would lead to an overall increase in GHG emissions in 2035 and 2050 when compared to 2010 levels. (2020: Less than Significant; 2035 and 2050: Significant)</p>	<p>GHG-A SANDAG shall update future Regional Comprehensive Plans and Regional Transportation Plans/Sustainable Community Plans to incorporate policies and measures that lead to reduced GHG emissions. Such policies and measures may be derived from the General Plans, local jurisdictions’ Climate Action Plans, and other adopted policies and plans of its member agencies that include GHG mitigation and adaptation measures or other sources.</p> <p>GHG-B San Diego region cities and the County government can and should adopt and implement Climate Actions Plans (also known as Plans for the Reduction of Greenhouse Gas Emissions as described in CEQA Guidelines Section 15183.5 Tiering and Streamlining the Analysis of Greenhouse Gas Emissions) that contain the following information:</p> <ol style="list-style-type: none"> a) Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within their respective jurisdictions; b) Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable; c) Identify and analyze the GHG emissions resulting for specific actions or categories of actions anticipated within their respective jurisdictions; d) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level; e) Establish a mechanism to monitor the plan’s progress toward achieving that level and to require amendment if the plan is not achieving specified levels; and f) Be adopted in a public process following environmental review. 	Less than Significant	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p><u>CAPs should, when appropriate, incorporate planning and land use measures from the California Attorney General’s latest list of example policies to address climate change at both the plan and project level.</u></p> <p><u>Specifically, at the plan level, land use plans should, when appropriate, incorporate planning and land use measures from the California Attorney General’s latest list of example policies to address climate change (http://ag.ca.gov/globalwarming/pdf/GP_policies.pdf), including, but not limited to policies from that web page such as:</u></p> <ul style="list-style-type: none"> <u>• Smart growth, jobs/housing balance, transit-oriented development, and infill development through land use designations, incentives and fees, zoning, and public-private partnerships</u> <u>• Create transit, bicycle, and pedestrian connections through planning, funding, development requirements, incentives and regional cooperation, and create disincentives for auto use</u> <u>• Energy and water-efficient buildings and landscaping through ordinances, development fees, incentives, project timing, prioritization, and other implementing tools</u> <p><u>In addition, they should also incorporate, when appropriate, policies to encourage implementation of the Attorney General’s list of project specific mitigation measures available at the following web site: http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf, including, but not limited to measures from the web page such as:</u></p> <ul style="list-style-type: none"> <u>• Adopt a comprehensive parking policy that discourages private vehicle use and encourages the use of alternative transportation</u> <u>• Build or fund a major transit stop within or near development</u> <u>• Provide public transit incentives such as free or low-cost monthly transit passes to employees, or free ride areas to residents and customers</u> <u>• Incorporate bicycle lanes, routes and facilities into street systems, new subdivisions, and large developments</u> <u>• Require amenities for non-motorized transportation, such as secure and convenient bicycle parking.</u> <p><u>They should also incorporate, when appropriate, planning and land use measures from additional resources listed by the California Attorney General at the following web page: http://ag.ca.gov/globalwarming/ceqa/resources.php.</u></p> <p><u>SANDAG will assist local governments in preparing CAPS and other climate strategies through continued implementation of the SANDAG Climate Action Strategy and Energy Roadmap Program. The Climate Action Strategy provides a toolbox of</u></p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p><u>land use, transportation, and related policy measures and investments that help implement the 2050 RTP/SCS through reducing GHG emissions. Policy measures also are identified for buildings and energy use, protecting transportation and energy infrastructure from climate impacts, and to help SANDAG and local jurisdictions reduce GHGs from their operations. Through the Energy Roadmap Program, SANDAG will continue to provide energy planning assistance to local governments to reduce local energy-related GHG emissions. SANDAG's Climate Action Strategy can be found at: http://www.sandag.org/uploads/publicationid/publicationid_1481_10940.pdf</u></p> <p><u>In addition, CAPs should also incorporate analysis of climate change adaptation, in recognition of the likely and potential effects of climate change in the future regardless of the level of mitigation (San Diego Foundation Focus 2050 report) and in conjunction with Executive Order S-13-08, which seeks to enhance the State's management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of State's first climate adaptation strategy.</u></p> <p>GHG-C SANDAG shall and implementing agencies can and should require Best Available Control Technology (BACT) during construction and operation of projects, including:</p> <ul style="list-style-type: none"> a) Solicit bids that include use of energy and fuel efficient fleets; b) Solicit preference construction bids that use BACT; c) Employ use of alternative fueled vehicles; d) Use lighting systems that are energy efficient, such as LED technology; e) Use CEQA Guidelines Appendix F, Energy Conservation, to create an energy conservation plan; and f) Streamline permitting process to infill, redevelopment, and energy-efficient projects. g) <u>Use an adopted emissions calculator to estimate construction-related emissions;</u> h) <u>Use the minimum feasible amount of GHG-emitting construction materials that is feasible;</u> i) <u>Use of cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;</u> j) <u>Use of lighter-colored pavement where feasible;</u> k) <u>Recycle construction debris to maximum extent feasible; and</u> l) <u>Plant shade trees in or near construction projects where feasible.</u> 			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
GHG-2 Conflict with SB 375 GHG emission reduction targets Implementation of the 2050 RTP/SCS would not conflict with SB 375 emission reductions targets. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Because the Air Resource Board (ARB) has not developed a target for 2050, no analysis is provided for that year.
GHG-3 Conflict with applicable GHG reduction plans Implementation of the 2050 RTP/SCS would not conflict with applicable GHG reduction plans. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
4.9 HAZARDS AND HAZARDOUS MATERIALS				
HM-1 Routine Use, Transportation, Disposal, and Release of Hazardous Materials New development and redevelopment associated with the 2050 RTP/SCS, such as new industrial commercial development that uses hazardous materials, would result in increased use, storage, disposal, and transportation of hazardous materials. The construction and operation of the transportation network improvements would also involve the routine transport, use, or disposal of hazardous materials. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
<p>HM-2 Release of Hazardous Materials The potential for release of hazardous materials associated with the 2050 RTP/SCS would primarily occur from construction-related activities (e.g., demolition, soil disturbances); routine use, disposal, and storage of common hazardous materials such as paints, solvents, and cleaning products; and/or accidents during the routine transport of hazardous materials. (Less than Significant)</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
<p>HM-3 Hazardous Materials Near Schools New development and redevelopment associated with the 2050 RTP/SCS would result in increased use, storage, disposal, and transportation of hazardous materials near schools. The construction and operation of the transportation network improvements would also increase risk of release of hazardous materials near schools. (Less than Significant)</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
<p>HM-4 Location on Hazardous Materials Sites Review of the environmental risk databases indicates that 22 Cortese List sites are</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
listed within the San Diego region. Implementation of the 2050 RTP/SCS would result in increased development and construction of transportation network improvements may occur through, or next to, Cortese sites that are currently listed, or sites to be listed in the future as they are discovered. (Less than Significant)				
HM-5 Hazardous Risks from Public Airports Increased development and construction of transportation network improvements associated with the 2050 RTP/SCS would occur near public or military airports. Regional growth in areas located close to public or military airports or in flight paths could expose people or structures to aircraft accidents. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
HM-6 Hazardous Risks from Private Airports or Helipads Increased development and construction of transportation network improvements would occur near private airstrips or helipads. Regional growth in areas located close to private airports or helipads or in flight paths could expose	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
people or structures to aircraft accidents. (Less than Significant)				
<p>HM-7 Emergency Response and Evacuation Plans Increased development and transportation network improvements associated with the 2050 RTP/SCS may cause obstruction for emergency response vehicles or result in activities that would cause physical interference in the implementation of an emergency response and evacuation plans. (Less than Significant)</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
<p>HM-8 Wildland Fires Much of San Diego region is subject to wildland fire hazards. Regional growth and increased development forecasted to occur has the potential to increase the threat of wildland fires on human populations and property, as development may be located in closer proximity to the “wildland urban interface” (WUI) and Fire Hazard Severity zones. In addition, climate change may increase the frequency and intensity of wildland fires. (Significant)</p>	<p>HM-A SANDAG shall and other implementing agencies can and should require the implementation of bank stabilization improvements and erosion control measures near transportation infrastructure, such as major highways and transit centers, after wildfires.</p> <p>HM-B SANDAG shall and other implementing agencies can and should consider additional wildfire risks caused by climate change, and adaptation measures, in the design and environmental review of development projects and transportation network improvements implemented as part of the the 2050 RTP/SCS. SANDAG shall and other implementing agencies can and should incorporate climate change adaptation <u>measures into the project design, where feasible. Example adaptation measures could include, but are not limited to, such as designing buffer zones in areas within the WUI to reduce fuel adjacent to high population centers; ensuring sufficient emergency water supply for existing and new projects by working with water management agencies and plans; building and remodeling existing structures to be more fire resistant; minimizing exposure to and loss from fire hazards by avoiding, where feasible, development in high risk areas or designing developments in high-risk areas with ignition-resistant construction; and establishing fuel management strategies in high risk areas.</u></p>	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation			
		2020	2035	2050	
4.10 HYDROLOGY AND WATER QUALITY					
WQ-1 Violation of Water Quality Standards Construction activities related to implementation of the 2050 RTP/SCS would not violate water quality standards. (Less than Significant)	No mitigation is required.		Less than Significant	Less than Significant	Less than Significant
WQ-2 Existing Drainage Patterns Regional growth/land use change and transportation network improvements associated with the 2050 RTP/SCS would substantially alter drainage patterns and cause substantial soil erosion. (Significant)	WQ-A During project-specific design and CEQA review, SANDAG shall and other implementing agencies can and should develop detailed erosion control mitigation measures tailored to the project and site to be developed and included in the SWPPP upon application for a Construction General Permit. During construction, implementing agencies can and should avoid construction on unstable slopes and erosion-prone areas where possible; use special construction techniques to minimize erosion; and manage on-site grading to maximize the capture and retention of on-site runoff by creating perimeter ditches, trenches, siltation ponds, or similar depressions. <u>Low-impact development (LID) guidance provided by the Governor’s Office of Planning and Research (http://www.opr.ca.gov/ceqa/pdfs/Technical_Advisory_LID.pdf) as well as other implementing agencies such as the County’s LID Handbook shall be used to select Low-impact development (LID) design features. These features, including drought-tolerant landscaping, shall be incorporated into each drainage design to the maximum extent practicable. Where permanent, postconstruction BMPs are specified (e.g., detention/retention systems), features shall be utilized for temporary sediment trap devices during construction. In addition, agencies can and should develop an erosion control and revegetation plan for the project site to delineate measures to minimize soil loss and prevent short-term and long-term significant soil erosion problems. Routine site inspections should be made to assess long-term effectiveness of soil erosion control.</u>	Less than Significant	Less than Significant	Less than Significant	

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
<p>WQ-3 Flows in Flood Hazard Areas Regional growth/land use change and transportation network improvements associated with the 2050 RTP/SCS would not be constructed in 100-year floodplains in a manner that would impeded or redirect flood flows.. (Less than Significant)</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
<p>WQ-4 Flooding Hazards Regional growth/land use change and transportation network improvements associated with the 2050 RTP/SCS could be exposed to flood hazards without the appropriate design measures. In addition, there is potential for increased flooding hazards due to climate change. (Less than Significant)</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
<p>WQ-5 Seiche, Tsunami, or Mudflow Regional growth/land use change and transportation network improvements associated with the 2050 RTP/SCS would occur in areas subject to seiche, tsunami, or mudflow. (Less than Significant).</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
4.11 LAND USE				
<p>LU-1 Community Character and Cohesion Transportation network improvements associated with the 2050 RTP/SCS, such as roadway widening and new Trolley line extensions into previously unserved areas, as well as increased land use densities in existing urban centers, have the potential to substantially deteriorate community character and cohesion. (Significant)</p>	<p>LU-A For transportation facility widening projects, Trolley line extensions, and double-tracking of the LOSSAN and SPRINTER corridors, SANDAG shall and other implementing agencies can and should implement feasible alignments, design options, and other design features that avoid or substantially reduce impacts on community character and cohesion, and avoid or substantially reduce conflicts with land use plans. To achieve this objective, SANDAG shall and implementing agencies should coordinate with cities and San Diego County early in the planning process for these facilities to identify potentially significant land use impacts and address them through the facility planning and design process.</p> <p>LU-B SANDAG shall, and San Diego region cities and the County of San Diego can and should, review and reevaluate the SCS land use pattern in future years as growth occurs to consider whether continued increased density in urban areas or continued expansion of spaced rural residential use into existing undeveloped lands would be necessary. SANDAG shall revise the SCS land use pattern in future RTP updates to be consistent with the latest updates to local general plans, and to reduce the potential for long-term impacts on community character. <u>In addition, in future updates of the Regional Comprehensive Plan (RCP), SANDAG will continue to coordinate with the local cities and the County of San Diego to update the Smart Growth Concept Map and identify areas of the region where additional growth could be accommodated to coincide with the increased investment in transit.</u></p>	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
<p>LU-2 Conflict with Adopted Land Use Plans Transportation network improvements associated with the 2050 RTP/SCS would require a substantial amount of property to encompass the necessary right-of-way, introduce a new physical division along the alignment, create a new noise source, require new crossings with local roadways, and result in other similar types of changes. Increased compact and sustainable development in existing cities may be beyond that anticipated and planned</p>	See Mitigation Measures LU-A and LU-B above.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
for within local plans and policies. (Significant)				
4.12 NOISE				
<p>N-1 Noise Levels in Excess of Standards in Plans or Ordinances</p> <p>The increase in development associated with the 2050 RTP/SCS would result in impacts to noise through conflicts in land use, such as placing residential uses next to commercial or industrial uses or locating noise sensitive land uses within the 60-65 dBA CNEL contour of airports or roadways. At the regional scale, the noise impacts of transportation network improvements are generally expected to exceed the significance criteria or result in a substantial noise level increase when they occur in close proximity to noise sensitive receptors. (Significant)</p>	<p>NOI-A</p> <p>SANDAG shall and other implementing agencies responsible for design and operation of individual projects that would generate operational source noise from infrastructure changes (such as transit stations, electrical substations, etc.) can and should implement the following design features, in locations that are near noise-sensitive receptors:</p> <ul style="list-style-type: none"> • New and expanded permanent noise sources, such as transit stations, will receive a full project-level environmental acoustical analysis to ensure that noise level increases are within acceptable limits. • Noise reduction components such as buffer zones, barriers, site design, and grade separation will be implemented as determined by project-level analysis to ensure that noise level increases are within acceptable limits. <p>Local governments can and should use any land use design practices such as buffer zones, barriers, site design, and grade separation techniques to ensure that noise levels are reduced to the extent feasible.</p> <p>NOI-B</p> <p>SANDAG shall and other implementing agencies responsible for design and operation of individual projects that would generate transportation noise (i.e., transportation network improvements and other changes in service or changes to routes or infrastructure related to rail or motor vehicles) should implement the following design features, in locations that are near noise-sensitive receptors:</p> <ul style="list-style-type: none"> • New and expanded transit corridors and features such as new rail tracks, double-tracking, interstate ramps, transit stations, and transit-only lanes will receive a full project-level environmental acoustical analysis to ensure that noise level increases are within acceptable limits. • Noise reduction components such as buffer zones, barriers, corridor routing, site design, grade separation, and electric-powered vehicles will be implemented as determined by project-level analysis to ensure that noise level increases are within acceptable limits. <u>An analysis of alternative designs for noise reduction components is also recommended.</u> • For all new at-grade rail crossings, Federal Rail Administration Quiet Zones requirements will be met and approved, <u>by both the FRA and the local government</u>, as funding is available. Quiet Zones are at grade rail crossings that have met specific Federal Rail Administration <u>FRA</u> safety criteria for reducing or eliminating the requirement for locomotives to blast their horns. 	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p>NOI-C SANDAG shall and other implementing agencies responsible for approval of or construction individual projects (both development projects and transportation network improvements) should implement the following mitigation measures to reduce noise levels generated by on-site construction-equipment:</p> <ul style="list-style-type: none"> • Where feasible, project construction and related activities shall occur during permitted hours in accordance with local jurisdiction regulations. • Construction equipment will be properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). All impact tools will be shrouded or shielded and all intake and exhaust ports on power equipment will be muffled or shielded. • Construction equipment will not be idled for extended periods of time in the vicinity of noise-sensitive receptors. • Fixed/stationary equipment (such as generators, compressors, rock crushers, and cement mixers) will be located as far as possible from noise-sensitive receptors. • Provided that pile driving would be necessary for construction due to geological conditions, pile holes will be predrilled to the maximum feasible depth. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain. 			
<p>N-2 Groundborne Vibration or Noise Development and transportation network improvements associated with the 2050 RTP/SCS would require construction activities that would produce substantial vibration. Development of new or expanded transportation systems, such as roadways and railways, would potentially locate vibration sources in proximity to vibration sensitive receptors. (Significant)</p>	<p>NOI-D SANDAG shall and other implementing agencies should implement the following mitigation measures to reduce groundborne vibration and noise levels generated by on-site construction-equipment:</p> <ul style="list-style-type: none"> • When construction activity must take place within 45 feet of a sensitive receptor, smaller rubber-tired equipment will be used. • If pile driving would be necessary for construction due to geological conditions within 290 feet of any sensitive receptor, pile holes will be predrilled to the maximum feasible depth. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground reducing pile diving vibration to a smaller area. 	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
<p>N-3 Permanent Increase in Ambient Noise Levels Under the 2050 RTP/SCS, land use development intensity would be greater, which would place receptors in proximity to more or potentially louder noise sources and result in substantial noise level increases of 5 dBA over existing conditions. The noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, and increased frequency along existing transit corridors would generally increase noise levels when they occur in proximity to noise sensitive receptors. (Significant)</p>	See Mitigation Measures NOI-A, NOI-B, and NOI-C above.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
<p>N-4 Temporary or Periodic Increase in Ambient Noise Levels Development and transportation network improvements associated with the 2050 RTP/SCS would require construction activities that would produce temporary or periodic increases in ambient noise levels at nearby sensitive receptors. (Significant)</p>	See Mitigation Measure NOI-C above.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
<p>N-5 Exposure to Excess Noise Levels Near a Public Airport Regional growth and land use change associated with the 2050 RTP/SCS would potentially increase aircraft activity and development near public-use or military airports in the region. However, the 2050 RTP/SCS would not involve changes in operations at public use or military airports and would not develop noise-sensitive land uses or employment centers; thus, proposed transportation projects would not expose future noise-sensitive land uses to excessive noise levels due to airport noise. (Less than Significant)</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
<p>N-6 Exposure to Excess Noise Levels Near a Private Airstrip Increased development and construction of transportation network improvements associated with the 2050 RTP/SCS would occur near private airstrips or helipads. However, the 2050 RTC/SCS would not result in any operational changes (e.g., changes in flight patterns) to private airstrips in the San Diego region. (Less than Significant)</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
4.13 POPULATION AND HOUSING				
PH-1 Induce Substantial Population Growth The 2050 RTP/SCS would induce substantial population growth through policies, strategies, and transportation improvements. (Significant)	No feasible mitigation exists.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
PH-2 Displace Significant Numbers of Housing or Businesses The 2050 RTP/SCS would include redevelopment projects and transportation network improvements that would require additional right-of-way, which would displace existing housing and businesses. (Significant)	PH-A For transportation network improvements, SANDAG shall and other implementing agencies can and should develop design strategies for application at the project level to avoid or reduce the temporary or permanent acquisition of residential and nonresidential property. For projects with the potential to displace homes and/or businesses, SANDAG shall and other implementing agencies can and should evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. If an alternate route would use existing rights-of-way or avoid or reduce the number of homes or businesses displaced, the route should be considered as a project alternative and studied for feasibility.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
PH-3 Impede Implementation of the Regional Housing Share Allocation The 2050 RTP/SCS would provide sufficient housing capacity to be consistent with the 2013-2020 Regional Housing Needs Assessment (RHNA) cycle, and future updates to the RTP/SCS would likely be consistent with future RHNA cycles. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
4.14 PUBLIC SERVICES, UTILITIES, AND ENERGY				
<p>PS-1 Provision of new or physically altered governmental facilities The 2050 RTP/SCS would induce population growth. In areas where population increases are projected, there will be a need to provide higher levels of public services. Construction of new facilities or expanding existing governmental facilities may result in short-term construction-related impacts to air quality, noise, and traffic, and other areas of concern. (Significant)</p>	<p>PS-A During the CEQA review process for individual facilities, San Diego region cities; the County of San Diego; and all school districts, colleges, and universities with responsibility for construction of new public service facilities or the expansion of existing facilities, including those of police and fire protection services, libraries, and schools, can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. Such conditions should include those necessary to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of new public or expanded public service facilities.</p>	Less than Significant	Less than Significant	Less than Significant
<p>US-1 Wastewater Treatment Facilities Implementation of the 2050 RTP/SCS would result in significant impacts from the construction of new wastewater treatment facilities or the expansion of existing facilities that would be required to adequately meet projected capacity. (Significant)</p>	<p>US-A During the CEQA review process for individual facilities, San Diego region cities, the County of San Diego, and special districts with responsibility for the construction of new wastewater treatment and collection facilities or the expansion of existing facilities to adequately meet projected capacity needs can and should apply necessary mitigation measures to reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. Such conditions should include those necessary to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality and others that apply to specific construction or expansion of wastewater treatment and collection facilities projects.</p> <p>US-B During the CEQA review process for individual development projects, San Diego region cities, the County of San Diego and special districts with responsibility for project approval can and should apply necessary mitigation measures to conserve water and reduce the generation of wastewater. Such measures should be imposed through conditions required to be followed by those directly involved in the design, construction, and operation of projects.</p>	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
<p>US-2 Storm Water Drainage Facilities Implementation of the 2050 RTP/SCS would result in significant impacts from the construction of new storm water drainage facilities or the expansion of existing facilities that would be required to adequately meet projected capacity need. (Significant)</p>	<p>US-C During the CEQA review process for individual facilities, SANDAG shall and San Diego region cities, the County of San Diego, and other implementing agencies with responsibility for the construction of new storm water drainage facilities or the expansion of existing facilities to adequately meet projected capacity needs can and should apply necessary mitigation measures, <u>including actions set forth in regional watershed management plans</u>, to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. Such conditions should include those necessary to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of storm water drainage facilities projects.</p>	Less than Significant	Less than Significant	Less than Significant
<p>US-3 Solid Waste Disposal Landfills would have insufficient permitted capacity to meet the solid waste disposal needs of forecasted growth associated with the 2050 RTP/SCS. (Significant)</p>	<p>US-D SANDAG shall and San Diego region cities, and the County of San Diego can and should support the San Diego region's implementation of (1) the IWMA through identification of the need for new landfills and possible sites through the preparation of the CIWMP, and regular updates to the Countywide Siting Element every 5 years; and (2) solid waste recycling, composting, and other waste reduction programs.</p>	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
<p>US-4 Solid Waste Regulatory Compliance Regional growth and land use changes associated with the 2050 RTP/SCS would lead to a corresponding increase in the amount of solid waste generated and requiring disposal. (Less than Significant)</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
<p>US-5 Energy Population growth and development forecasted to occur as part of the 2050 RTP/SCS would increase the total demand for energy, and new facilities will likely be</p>	<p>US-E During the CEQA review process, San Diego region energy providers and energy regulatory agencies with responsibility for the construction or approval of new natural gas, electricity, and transportation fuel facilities or the expansion of existing facilities to adequately meet projected capacity needs can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the</p>	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
needed to produce and deliver energy to the region. Construction of new facilities may result in adverse environmental impacts. (Significant)	<p>construction or expansion activities. Such conditions should include those necessary to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of natural gas and electric facilities projects.</p> <p>US-F During the CEQA review process for individual development projects, San Diego region cities, the County of San Diego and special districts with responsibility for project approval can and should apply necessary mitigation measures to reduce energy consumption and promote the use of renewable energy. Such measures should be imposed through conditions required to be followed by those directly involved in the design, construction, and operation of projects.</p>			
4.15 RECREATION				
<p>REC-1 Substantial Physical Deterioration of Parks and Recreation Facilities Regional growth and land use changes associated with the 2050 RTP/SCS would increase the per capita use of existing parks and recreation facilities, which would accelerate their deterioration. (Significant)</p>	<p>REC-A The 19 incorporated cities, the County of San Diego, and special districts with responsibility for the construction of new recreation facilities or the expansion of existing facilities can and should acquire parkland concurrent with forecasted development through the Quimby Act and other means described in Section 4.15.2, and use local plans, ordinances, and other means to acquire parkland and recreation facilities as their populations increase to adequately meet projected needs.</p>	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
<p>REC-2 Construction of New or Expanded Park and Recreational Facilities Population increase associated with the 2050 RTP/SCS would require the expansion or construction of parkland and recreation facilities, which would adversely impact the environment. (Significant)</p>	<p>REC-B During project-specific design and CEQA review, the 19 incorporated cities, the County of San Diego, and special districts with responsibility for the construction of new or expanded recreation facilities, <u>including recreational trails</u>, can and should apply mitigation measures to avoid or substantially reduce construction and operational impacts on air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, and other resources.</p>	Less than Significant	Less than Significant	Less than Significant

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
4.16 TRANSPORTATION				
<p>T-1 Average Work Trip Travel Time Implementation of the 2050 RTP/SCS would <u>not result</u> in a substantial increase in the average commute time. (<u>Less than Significant</u>) in years 2035 and 2050. (2020: <u>Less than Significant</u>; 2035 and 2050: <u>Significant</u>)</p>	<p>T-A SANDAG, working with local jurisdictions and other transportation planning agencies, including Caltrans, shall reevaluate regional travel times in interim years prior to 2035 and 2050. When feasible, SANDAG shall in future RTPs modify the timing and priority of transportation network improvements to be consistent with available funding programs to most quickly implement those improvements that would reduce impacts T1, T-3, and T4 to less than significant levels.</p>	Less than Significant	<u>Less than Significant</u> and Unavoidable	<u>Less than Significant</u> and Unavoidable
<p>T-2 Percentage of Work and Higher Education Trips Accessible Within 30 Minutes in Peak Periods Implementation of the 2050 RTP/SCS would not substantially decrease the percentage of work and higher education trips accessible in 30 minutes in peak periods. (<u>Less than Significant</u>)</p>	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
<p>T-3 Percentage of Non-Work-Related Trips Accessible Within 15 Minutes Implementation of the 2050 RTP/SCS would result in a substantial decrease in overall accessibility of non-work-related trips within 15 minutes in years 2035 and 2050. (2020 and 2035: <u>Less than Significant</u>; 2035 and 2050: <u>Significant</u>)</p>	<p>T-A SANDAG, working with local jurisdictions and other transportation planning agencies, including Caltrans, shall reevaluate regional travel times <u>and use changes, and regional growth during the development of each RTP/SCS, occurring every four years</u>. When feasible, SANDAG shall in future RTPs modify the timing and priority of transportation network improvements to be consistent with available funding programs to most quickly implement those improvements that would reduce impacts T-3, and T4 to less than significant levels. See Mitigation Measure TRANS-A above.</p>	Less than Significant	<u>Less than Significant</u> and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
T-4 Vehicle Miles Travelled Implementation of the 2050 RTP/SCS would result in a significant impact related to total vehicle miles traveled in congested conditions during peak periods in year 2050. (2020 and 2035: Less than Significant; 2050: Significant)	See Mitigation Measure TRANS-A above.	Less than Significant	Less than Significant	Significant and Unavoidable
T-5 Emergency Access and Response The roadway congestion that would result from regional growth or transportation network improvements associated with the 2050 RTP/SCS would not impede response times for emergency response and access. (Less than Significant)	No mitigation is required.	Less than Significant	Less than Significant	Less than Significant
4.17 WATER SUPPLY				
WS-1 Existing Available Water Supplies or Water Treatment Facilities Existing water supplies and facilities would not be adequate to serve water demands from both growth/land use changes and from transportation network improvements associated with the 2050 RTP/SCS. (Significant)	WS-A Local governments can and should implement all feasible water conservation measures, including, but not limited to, those measures and policies regarding water efficiency, conservation, capture, and reuse identified by water suppliers and in local government general plans during the CEQA review process for individual development projects. For example, water conservation measures could include: <ul style="list-style-type: none"> • Educating the public regarding water conservation, greywater use, and water storage and capture strategies. • Requiring new construction and major renovations of all residential and nonresidential developments to meet the following standards: <ul style="list-style-type: none"> – Achieve a reduction of water use to be 40 percent less than baseline for buildings as calculated by the Energy Policy Act of 1992. – Reduce water consumption for outdoor landscape irrigation, consistent with 	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
	<p>the most recent local government policies.</p> <ul style="list-style-type: none"> • Comply with all prevailing state laws and local government regulations regarding indoor and outdoor water conservation and efficiency in new construction. <ul style="list-style-type: none"> – Installation of drought-tolerant landscaping, drip irrigation systems for landscaping where appropriate, and low-flow fixtures in bathrooms and kitchens. – Require efficient irrigation systems and encourage the use of native plant species and noninvasive drought-tolerant/low-water-use plants in landscaping. – Maximize stormwater filtration and/or infiltration in areas that are not subject to high groundwater by maximizing the natural drainage patterns and the retention of natural vegetation and other pervious surfaces. – Require development to minimize the use of directly connected impervious surfaces and to retain stormwater runoff caused from the development footprint at or near the site of generation. <p>WS-B: SANDAG shall and other implementing agencies can and should utilize reclaimed water (also known as recycled water) to the greatest extent feasible during design and construction of the projects implementing the 2050 RTP/SCS, to minimize potential impacts to the San Diego regional water supply. Recycled water can be used to fill lakes, ponds, and ornamental fountains; to irrigate parks, campgrounds, golf courses, freeway medians, community greenbelts, and school athletic fields; and to control dust at construction sites. Recycled water can also be used in certain industrial processes and for flushing toilets and urinals in nonresidential buildings. For example, local firms have dual-plumbed buildings to allow the use of recycled water for toilet and urinal flushing and for use in cooling towers. Recycled water could also be used for street sweeping purposes.</p>			

Impacts	Mitigation Measures	Level of Significance After Mitigation		
		2020	2035	2050
<p>WS-2 New or Expanded Water Treatment or Distribution Facilities Regional growth and transportation network improvements associated with the 2050 RTP/SCS would both result in construction of expanded or new water treatment or distribution facilities, the construction of which could cause significant environmental effects. (Significant)</p>	<p>WS-C During the CEQA review process for individual facilities, San Diego region cities, the County of San Diego, and special districts with responsibility for the construction of new water treatment and collection facilities or the expansion of existing facilities to adequately meet forecasted capacity needs can and should apply necessary mitigation measures to reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. Such conditions should include those necessary to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of water treatment and collection facilities projects.</p>	Less than Significant	Less than Significant	Less than Significant

ES.6 ALTERNATIVES TO THE PROPOSED PROJECT

Chapter 6.0 in this EIR analyzes seven alternatives to the 2050 RTP/SCS. These alternatives are listed below and are described in detail in the following paragraphs:

- Alternative 1: No Project Alternative
- Alternative 2a: Modified Funding Strategy/2050 Growth Forecast Land Use
- Alternative 2b: Modified Funding Strategy/ Modified Land Use
- Alternative 3a: Transit Emphasis/Modified Phasing/2050 Growth Forecast Land Use
- Alternative 3b: Transit Emphasis/Modified Phasing/ Modified Land Use Assumption
- Alternative 4: 2050 RTP/SCS Transportation Network/Modified Land Use Assumption
- Alternative 5: Slow Growth

The alternatives below were derived to reflect distinct differences with respect to investment, mobility, and environmental effects and to provide SANDAG decision makers with a range of choices regarding the future transportation and growth for the San Diego region. The respective alternatives are described below; the descriptions include comparison to the proposed 2050 RTP/SCS. Table ES-3 provides a summary and comparison of the environmental impacts associated with the 2050 RTP/SCS and the alternatives discussed below.

Alternative 1: No Project

CEQA requires a No Project Alternative to be analyzed in the EIR. The No Project Alternative assumes no adoption of the 2050 RTP/SCS.

Regional Growth/Land Use Change

The No Project Alternative would assume the 2050 Regional Growth Forecast land use (same as included in the 2050 RTP/SCS). The 2050 Regional Growth Forecast was accepted by SANDAG's Board of Directors in February 2010 for planning purposes, and would be implemented even if the 2050 RTP/SCS was not adopted. Although the 2050 Regional Growth Forecast would be implemented, including the associated growth in population, housing units and employment with this alternative, the pattern of development within the region would likely be less compact since all transit improvements associated with the proposed project would not be available to support the transit-oriented compact development pattern envisioned in the 2050 RTP/SCS.

Transportation Network Improvements

The No Project Alternative would include transportation projects currently under construction or development, as listed in Tables 6.2-1 and 6.2-2 of Section 6.0 Alternatives Analysis, but would not include any proposed federally-funded transportation improvements.

While additional funding would be available from local sources (especially the TransNet extension ordinance), it is speculative to know how that funding would be allocated to future transportation projects other than those listed in Tables 6.2-1 and 6.2-2. Therefore, under the No Project Alternative, specific future transportation projects other than those listed in Tables 6.2-1 and 6.2-2 are considered speculative and not reasonably foreseeable.

The TransNet funding allocation assumed that every dollar of TransNet funding would be matched by a non-local (state and/or federal) dollar. While the projects listed in Tables 6.2-1 and 6.2-2 include TransNet funding, it is unknown how the balance of the TransNet funds would be spent without the matching funds. In addition, some project that were included in the TransNet measure were considered ‘lock box’ projects – that is, projects that could not be modified without a vote of the electorate (i.e. Mid-Coast LRT). If matching funds from the state and/or federal governments were not available, it is uncertain how that would impact delivery of those specific projects. Modifying other TransNet-funded projects would require a two-thirds vote of the SANDAG Board of Directors.

Alternative 2a: Modified Funding Strategy/2050 Growth Forecast Land Use

This alternative is analyzed to determine the environmental effects of implementing a modified funding strategy together with the 2050 Regional Growth Forecast land use, compared to the environmental effects of implementing the 2050 RTP/SCS. The modified funding strategy is based on a modification of the TransNet allocation as described below.

Regional Growth/Land Use Change

This alternative assumes the 2050 Regional Growth Forecast would be implemented (same as included in the 2050 RTP/SCS).

Transportation Network Improvements.

For highways, the modified funding strategy would differ from the 2050 RTP/SCS in that there would be fewer highway improvements overall, and some improvements would be phased at a later time. For transit, the modified funding strategy would add projects, increase service frequencies, and alter project phasing to increase the number of transit projects that are implemented earlier than under the 2050 RTP/SCS. Highway and transit projects under Alternative 2a are listed in Tables 6.2-3, 6.2-4, and 6.2-5 of Section 6.0.

Alternative 2b: Modified Funding Strategy/ Modified Land Use

This alternative is analyzed to determine the environmental effects of implementing a modified funding strategy together with a modified land use pattern, compared to the environmental effects of implementing the 2050 RTP/SCS. For consistency, the characteristics of the modified land use pattern remain the same in Alternatives 2b, 3b, and 4. The modified land use pattern is described below.

Regional Growth/Land Use Change

The modified land use pattern is based on the Smart Growth Concept Map (SANDAG 2008). Compared to the 2050 RTP/SCS, this modified pattern would add infill and redevelopment to increase residential development density within the Urban and Town Center designations and increase employment within the Job Centers.

While regional population growth remains the same as the 2050 Regional Growth Forecast, the location of population would be redistributed so that more of the future population within the San Diego region would be located within the Urban and Town Center designations as shown on the Smart Growth Concept Map. The “Existing” smart growth areas shown on the map would include the maximum density and the “Potential” smart growth areas would include the minimum density for that place type.

Gains in housing and jobs are associated with additional development potential. The less-growth areas were determined by the land use model based on travel times, prior growth patterns, and “capacity” (development potential). Under this scenario, areas may have a modest loss in jobs compared with the 2050 RTP/SCS if going from job-heavy to mixed-use redevelopment, as redevelopment would replace the existing jobs with new, but possibly fewer, jobs.

Since more housing and employment growth would be located in areas with existing urban development, the modified land use pattern would result in less development of vacant land. By 2020, the modified land use assumption would result in 10,884 more acres of vacant and undeveloped land than the 2050 RTP/SCS. By 2035, the pattern would result in 79,736 more acres of vacant land and 86,156 more acres by 2050.

Transportation Network Improvements

The transportation network would be the same as in Alternative 2a.

Alternative 3a: Transit Emphasis/Modified Phasing/2050 Growth Forecast Land Use

Compared to the 2050 RTP/SCS, this alternative would implement a transportation network emphasizing transit and modifying the phasing of transportation improvements together with the 2050 Regional Growth Forecast land use.

Regional Growth/Land Use Change

This alternative assumes the 2050 Regional Growth Forecast would be implemented (same as included in the 2050 RTP/SCS).

Transportation Network Improvements

This alternative would advance some transit projects earlier in the project phasing process than the proposed 2050 RTP/SCS. Changes to the project phasing schedule for the transit emphasis strategy would be the same as those included in the modified funding strategy (Alternatives 2a and 2b). The transit emphasis strategy differs from the modified funding strategy in that projects would be the same as those included in the 2050 RTP/SCS, with no additional services. The transit emphasis strategy would also implement the majority of highway projects in the 2050 RTP/SCS. Highway and transit projects under Alternative 3a are listed in Tables 6.2-6 and 6.2-7 of Section 6.0.

Alternative 3b: Transit Emphasis/Modified Phasing/Modified Land Use Assumption

This alternative would implement a transportation network emphasizing transit and modifying the phasing of transportation improvements (similar to Alternative 3a), together with a modified land use pattern as described in Alternative 2b.

Regional Growth/Land Use Change

Alternative 3b would implement the modified land use pattern described in Alternative 2b.

Transportation Network Improvements

Alternative 3b would implement the same transit emphasis/modified phasing transportation network described in Alternative 3a.

Alternative 4: 2050 RTP/SCS Transportation Network/Modified Land Use Assumption

This alternative would implement the 2050 RTP/SCS transportation network together with the modified land use pattern described in Alternative 2b.

Regional Growth/Land Use Change

Alternative 4 would implement the modified land use pattern described in Alternatives 2b and 3 b.

Transportation Network Improvements

Alternative 4 would implement the 2050 RTP/SCS transportation network.

Alternative 5: Slow Growth

The alternative would implement growth-slowing policies, assuming that restrictive land use regulations and/or economic disincentives (such as increased taxes, development fees, and similar types of economically based actions) were applied to slow growth of both regional population and employment. Although regional growth/land use change and transportation network improvements would be similar to the p2050 RTP/SCSSCS, complete implementation would be delayed by 5 years.

Regional Growth/Land Use Change

Alternative 5 would implement the 2050 RTP/SCS Regional Growth Forecast land use, but at a slower pace than the 2050 RTP/SCS . Growth in population, housing and employment under this alternative would occur as follows:

Year	Population	Housing	Employment
2020	3,364,191	1,201,230	1,538,781
2035	3,870,000	1,369,807	1,752,630
2050	4,282,462	1,491,629	1,940,784

Transportation Network Improvements

Alternative 5 would implement the 2050 RTP/SCS transportation network, but at a slower pace than the 2050 RTP/SCS, with implementation of each improvement delayed for 5 years.

Environmentally Superior Alternative

Based on the analysis of alternatives provided in the Section 6.0 and shown in Table ES-3 below, Alternative 5: No Growth is the environmentally superior alternative among those considered. Alternative 5 would have less environmental impacts than the proposed project for the following environmental topics: 1) aesthetics and visual resources; 2) agriculture and forest resources; 3) air quality; 4) biological resources; 5) cultural resources and paleontology; 6) environmental justice; 7) geology, soils and mineral

resources; 8) greenhouse gas emissions; 9) hazards and hazardous materials; 10) hydrology and water quality; 11) noise; 12) population and housing; 13) public services, utilities and energy; 14) recreation; 15) transportation; and 16) water supply. Impacts for land use are the same as the proposed project. Refer to Section 6.4 for a complete discussion of the environmentally superior alternative.

Other alternatives that would have less or greater impacts than the 2050 RTP/SCS are discussed in detail in Section 6.0 of this EIR.

Senate Bill 468

The Draft EIR preliminarily evaluated potential changes to the impacts of the Draft 2050 RTP/SCS of modifying the I-5 (10F+4ML) improvements (from State Route 56 to Vandergrift) to an 8F+4ML facility, a facility consistent with SB 468. Since Caltrans subsequently selected this alternative in the Final EIR for the I-5 North Coast corridor (Caltrans 2010), the 8F+4ML facility was incorporated into the Final 2050 RTP/SCS that is evaluated in this Final EIR.

**Table ES-3
Impacts Comparison: 2050 RTP/SCS and Alternatives Considered**

Environmental Impact Topics and Issues for 2020, 2035 and 2050		2050 RTP/SCS – Proposed Project	Alternative 1: No Project	Alternative 2a: Modified Funding Strategy/ 2050 Growth Forecast Land Use	Alternative 2b: Modified Funding Strategy/ Modified Land Use	Alternative 3a: Transit Emphasis/ Modified Phasing/2050 Growth Forecast Land Use	Alternative 3b: Transit Emphasis/ Modified Phasing/ Modified Land Use	Alternative 4: 2050 RTP/SCS Transportation Network/ Modified Land Use	Alternative 5: Slow Growth
1	Aesthetics and Visual Resources								
	2020								
	VIS-1	S	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	VIS-2	S	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	2035								
	VIS-1	S	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	VIS-2	S	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	2050								
	VIS-1	S	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
VIS-2	S	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	
2	Agriculture and Forest Resources								
	2020								
	AG-1	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AG-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	FR-1	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	FR-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	2035								
	AG-1	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AG-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	FR-1	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	FR-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	2050								
	AG-1	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AG-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	FR-1	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)

Environmental Impact Topics and Issues for 2020, 2035 and 2050		2050 RTP/SCS – Proposed Project	Alternative 1: No Project	Alternative 2a: Modified Funding Strategy/ 2050 Growth Forecast Land Use	Alternative 2b: Modified Funding Strategy/ Modified Land Use	Alternative 3a: Transit Emphasis/ Modified Phasing/2050 Growth Forecast Land Use	Alternative 3b: Transit Emphasis/ Modified Phasing/ Modified Land Use	Alternative 4: 2050 RTP/SCS Transportation Network/ Modified Land Use	Alternative 5: Slow Growth
	FR-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
3	Air Quality								
	2020								
	AQ-1	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-3	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-4	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	2035								
	AQ-1	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-3	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-4	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	2050								
	AQ-1	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-3	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-4	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	AQ-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
4	Biological Resources								
	2020								
	BIO-1	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	BIO-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	BIO-3	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	BIO-4	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	2035								
	BIO-1	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	BIO-2	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	BIO-3	S	<u>S(>)</u>	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>

	Environmental Impact Topics and Issues for 2020, 2035 and 2050	2050 RTP/SCS – Proposed Project	Alternative 1: No Project	Alternative 2a: Modified Funding Strategy/ 2050 Growth Forecast Land Use	Alternative 2b: Modified Funding Strategy/ Modified Land Use	Alternative 3a: Transit Emphasis/ Modified Phasing/2050 Growth Forecast Land Use	Alternative 3b: Transit Emphasis/ Modified Phasing/ Modified Land Use	Alternative 4: 2050 RTP/SCS Transportation Network/ Modified Land Use	Alternative 5: Slow Growth
	BIO-4 2050 BIO-1 BIO-2 BIO-3 BIO-4	S S S S S	<u>S(>)</u> <u>S(>)</u> <u>S(>)</u> <u>S(>)</u> <u>S(>)</u>	<u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u>	<u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u>	S(s) S(s) S(s) S(s) S(s)	<u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u>	<u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u>	<u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u>
5	Cultural Resources and Paleontology 2020 CULT-1 CULT-2 PALEO-1 2035 CULT-1 CULT-2 PALEO-1 2050 CULT-1 CULT-2 PALEO-1	S LTS S S LTS S S LTS S	<u>S(>)</u> LTS(s) <u>S(>)</u> <u>S(>)</u> LTS(s) <u>S(>)</u> <u>S(>)</u> LTS(s) <u>S(>)</u>	<u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u>	<u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u>	S(s) LTS(s) S(s) S(s) LTS(s) S(s) S(s) LTS(s) S(s)	<u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u>	<u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u>	<u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u>
6	Environmental Justice 2020 EJ-1 EJ-2 2035 EJ-1 EJ-2	LTS S LTS S	LTS(s) S(s) LTS(s) S(s)	LTS(s) S(s) LTS(s) S(s)	LTS(s) S(s) LTS(s) S(s)	LTS(s) S(s) LTS(s) S(s)	LTS(s) S(s) LTS(s) S(s)	LTS(s) S(s) LTS(s) S(s)	LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u>

Environmental Impact Topics and Issues for 2020, 2035 and 2050		2050 RTP/SCS – Proposed Project	Alternative 1: No Project	Alternative 2a: Modified Funding Strategy/ 2050 Growth Forecast Land Use	Alternative 2b: Modified Funding Strategy/ Modified Land Use	Alternative 3a: Transit Emphasis/ Modified Phasing/2050 Growth Forecast Land Use	Alternative 3b: Transit Emphasis/ Modified Phasing/ Modified Land Use	Alternative 4: 2050 RTP/SCS Transportation Network/ Modified Land Use	Alternative 5: Slow Growth
	2050 EJ-1 EJ-2	LTS S	LTS(s) S(s)	LTS(s) S(s)	LTS(s) S(s)	LTS(s) S(s)	LTS(s) S(s)	LTS(s) S(s)	LTS(s) <u>S(<)</u>
7	Geology, Soils and Mineral Resources 2020 GEO-1 GEO-2 GEO-3 GEO-4 MR-1 2035 GEO-1 GEO-2 GEO-3 GEO-4 MR-1 2050 GEO-1 GEO-2 GEO-3 GEO-4 MR-1	LTS LTS S LTS S LTS LTS S LTS S LTS LTS S LTS S	LTS(s) LTS(s) <u>S(>)</u> LTS(s) <u>S(>)</u> LTS(s) LTS(s) <u>S(>)</u> LTS(s) <u>S(>)</u>	LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u> LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u>	LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u> LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u>	LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u> LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u>	LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u> LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u>	LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u> LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u>	LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u> LTS(s) LTS(s) <u>S(<)</u> LTS(s) <u>S(<)</u>

	Environmental Impact Topics and Issues for 2020, 2035 and 2050	2050 RTP/SCS – Proposed Project	Alternative 1: No Project	Alternative 2a: Modified Funding Strategy/ 2050 Growth Forecast Land Use	Alternative 2b: Modified Funding Strategy/ Modified Land Use	Alternative 3a: Transit Emphasis/ Modified Phasing/2050 Growth Forecast Land Use	Alternative 3b: Transit Emphasis/ Modified Phasing/ Modified Land Use	Alternative 4: 2050 RTP/SCS Transportation Network/ Modified Land Use	Alternative 5: Slow Growth
8	Greenhouse Gas Emissions								
	2020								
	GHG-1	LTS	LTS(>)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	GHG-2	LTS	S(>)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	GHG-3	LTS	S(>)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	2035								
	GHG-1	S	S(<)	S(>)	S(>)	S(>)	S(>)	S(>)	S(<)
	GHG-2	LTS	S(>)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	GHG-3	LTS	S(>)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	2050								
	GHG-1	S	S(<)	S(s)	S(s)	S(>)	S(>)	S(>)	S(<)
	GHG-2	*	*	*	*	*	*	*	*
	GHG-3	LTS	S(>)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
9	Hazards and Hazardous Materials								
	2020								
	HM-1	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-2	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-3	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-4	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-6	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-7	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-8	S	S(>)	S(s)	S(<)	S(s)	S(<)	S(<)	S(<)
	2035								
	HM-1	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-2	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-3	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-4	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)

Environmental Impact Topics and Issues for 2020, 2035 and 2050		2050 RTP/SCS – Proposed Project	Alternative 1: No Project	Alternative 2a: Modified Funding Strategy/ 2050 Growth Forecast Land Use	Alternative 2b: Modified Funding Strategy/ Modified Land Use	Alternative 3a: Transit Emphasis/ Modified Phasing/2050 Growth Forecast Land Use	Alternative 3b: Transit Emphasis/ Modified Phasing/ Modified Land Use	Alternative 4: 2050 RTP/SCS Transportation Network/ Modified Land Use	Alternative 5: Slow Growth
	HM-6	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-7	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-8	S	S(s)	S(s)	<u>S(s)</u>	S(s)	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>
	2050								
	HM-1	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-2	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-3	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-4	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-6	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-7	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	HM-8	S	S(s)	S(s)	<u>S(s)</u>	S(s)	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>
10	Hydrology and Water Quality								
	2020								
	WQ-1	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	WQ-2	S	S(s)	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>
	WQ-3	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	WQ-4	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	WQ-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	2035								
	WQ-1	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	WQ-2	S	S(s)	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>
	WQ-3	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	WQ-4	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	WQ-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	2050								
	WQ-1	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	WQ-2	S	S(s)	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>	<u>S(s)</u>
	WQ-3	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	WQ-4	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	WQ-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)

Environmental Impact Topics and Issues for 2020, 2035 and 2050		2050 RTP/SCS – Proposed Project	Alternative 1: No Project	Alternative 2a: Modified Funding Strategy/ 2050 Growth Forecast Land Use	Alternative 2b: Modified Funding Strategy/ Modified Land Use	Alternative 3a: Transit Emphasis/ Modified Phasing/2050 Growth Forecast Land Use	Alternative 3b: Transit Emphasis/ Modified Phasing/ Modified Land Use	Alternative 4: 2050 RTP/SCS Transportation Network/ Modified Land Use	Alternative 5: Slow Growth
11	Land Use								
	2020								
	LU-1	S	<u>S(>)</u>	S(s)	S(s)	S(s)	S(s)	S(s)	S(s)
	LU-2	S	<u>S(>)</u>	S(s)	S(s)	S(s)	S(s)	S(s)	S(s)
	2035								
	LU-1	S	<u>S(>)</u>	<u>S(>)</u>	<u>S(>)</u>	S(s)	S(s)	S(s)	S(s)
	LU-2	S	<u>S(>)</u>	<u>S(>)</u>	<u>S(>)</u>	S(s)	S(s)	S(s)	S(s)
	2050								
	LU-1	S	<u>S(>)</u>	<u>S(>)</u>	<u>S(>)</u>	S(s)	S(s)	S(s)	S(s)
	LU-2	S	<u>S(>)</u>	<u>S(>)</u>	<u>S(>)</u>	S(s)	S(s)	S(s)	S(s)
12	Noise								
	2020								
	N-1	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>
	N-2	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>
	N-3	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>
	N-4	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>
	N-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	N-6	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	2035								
	N-1	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>
	N-2	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>
	N-3	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>
	N-4	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>
	N-5	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	N-6	LTS	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)	LTS(s)
	2050								
	N-1	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>
	N-2	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>
	N-3	S	<u>S(<)</u>	<u>S(<)</u>	S(s)	<u>S(<)</u>	S(s)	S(s)	<u>S(<)</u>

Environmental Impact Topics and Issues for 2020, 2035 and 2050		2050 RTP/SCS – Proposed Project	Alternative 1: No Project	Alternative 2a: Modified Funding Strategy/ 2050 Growth Forecast Land Use	Alternative 2b: Modified Funding Strategy/ Modified Land Use	Alternative 3a: Transit Emphasis/ Modified Phasing/2050 Growth Forecast Land Use	Alternative 3b: Transit Emphasis/ Modified Phasing/ Modified Land Use	Alternative 4: 2050 RTP/SCS Transportation Network/ Modified Land Use	Alternative 5: Slow Growth
	N-4 N-5 N-6	S LTS LTS	<u>S</u> LTS(s) LTS(s)	<u>S</u> LTS(s) LTS(s)	S(s) LTS(s) LTS(s)	<u>S</u> LTS(s) LTS(s)	S(s) LTS(s) LTS(s)	S(s) LTS(s) LTS(s)	<u>S</u> LTS(s) LTS(s)
13	Population and Housing 2020 PH-1 PH-2 PH-3 2035 PH-1 PH-2 PH-3 2050 PH-1 PH-2 PH-3	S S LTS S S LTS S S LTS	S(s) S(s) LTS(s) S(s) S(s) LTS(s) S(s) S(s) LTS(s)	S(s) S(s) LTS(s) S(s) S(s) LTS(s) S(s) S(s) LTS(s)	<u>S</u> <u>S</u> LTS(s) <u>S</u> <u>S</u> LTS(s) <u>S</u> <u>S</u> LTS(s)	S(s) S(s) LTS(s) S(s) S(s) LTS(s) S(s) S(s) LTS(s)	<u>S</u> <u>S</u> LTS(s) <u>S</u> <u>S</u> LTS(s) <u>S</u> <u>S</u> LTS(s)	<u>S</u> <u>S</u> LTS(s) <u>S</u> <u>S</u> LTS(s) <u>S</u> <u>S</u> LTS(s)	<u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u>
14	Public Services, Utilities and Energy 2020 PS-1 US-1 US-2 US-3 US-4 US-5 2035 PS-1 US-1 US-2	S S S S LTS S S S S	<u>S</u> <u>S</u> <u>S</u> <u>S</u> LTS(s) <u>S</u> <u>S</u> <u>S</u> <u>S</u>	S(s) S(s) S(s) S(s) LTS(s) S(s) S(s) S(s) S(s)	<u>S</u> <u>S</u> <u>S</u> <u>S</u> LTS(s) <u>S</u> <u>S</u> <u>S</u> <u>S</u>	S(s) S(s) S(s) S(s) LTS(s) S(s) S(s) S(s) S(s)	<u>S</u> <u>S</u> <u>S</u> <u>S</u> LTS(s) <u>S</u> <u>S</u> <u>S</u> <u>S</u>	<u>S</u> <u>S</u> <u>S</u> <u>S</u> LTS(s) <u>S</u> <u>S</u> <u>S</u> <u>S</u>	<u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u> <u>S</u>

Environmental Impact Topics and Issues for 2020, 2035 and 2050		2050 RTP/SCS – Proposed Project	Alternative 1: No Project	Alternative 2a: Modified Funding Strategy/ 2050 Growth Forecast Land Use	Alternative 2b: Modified Funding Strategy/ Modified Land Use	Alternative 3a: Transit Emphasis/ Modified Phasing/2050 Growth Forecast Land Use	Alternative 3b: Transit Emphasis/ Modified Phasing/ Modified Land Use	Alternative 4: 2050 RTP/SCS Transportation Network/ Modified Land Use	Alternative 5: Slow Growth
	US-3 US-4 US-5 2050 PS-1 US-1 US-2 US-3 US-4 US-5	S LTS S S S S S LTS S	<u>S(>)</u> LTS(s) <u>S(>)</u> <u>S(>)</u> <u>S(>)</u> <u>S(>)</u> <u>S(>)</u> LTS(s) <u>S(>)</u>	S(s) LTS(s) S(s) S(s) S(s) S(s) S(s) LTS(s) S(s)	<u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u>	S(s) LTS(s) S(s) S(s) S(s) S(s) S(s) LTS(s) S(s)	<u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u>	<u>S(<)</u> LTS(s) <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> LTS(s) <u>S(<)</u>	
15	Recreation 2020 REC-1 REC-2 2035 REC-1 REC-2 2050 REC-1 REC-2	S S S S S S	S(s) S(s) S(s) S(s) S(s) S(s)	S(s) S(s) S(s) S(s) S(s) S(s)	S(s) S(s) S(s) S(s) S(s) S(s)	S(s) S(s) S(s) S(s) S(s) S(s)	S(s) S(s) S(s) S(s) S(s) S(s)	<u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u> <u>S(<)</u>	
16	Transportation¹ 2020 T-1 T-2 T-3 T-4 T-5 2035 T-1	LTS LTS LTS LTS LTS LTS	LTS(s) <u>S(>)</u> <u>LTS(>)</u> <u>LTS(>)</u> <u>S(>)</u> <u>LTS(<)</u>	<u>LTS(>)</u> LTS(s) LTS(s) <u>LTS(>)</u> LTS(s)	<u>LTS(>)</u> LTS(s) LTS(s) <u>LTS(>)</u> LTS(s)	<u>LTS(>)</u> <u>LTS(>)</u> LTS(s) <u>LTS(>)</u> LTS(s)	<u>LTS(>)</u> LTS(s) LTS(s) <u>LTS(>)</u> LTS(s)	LTS(s) LTS(s) LTS(s) <u>LTS(>)</u> LTS(s) <u>LTS(>)</u>	LTS(<) LTS(<) LTS(<) LTS(<) LTS(<) <u>LTS(<)</u>

Environmental Impact Topics and Issues for 2020, 2035 and 2050		2050 RTP/SCS – Proposed Project	Alternative 1: No Project	Alternative 2a: Modified Funding Strategy/ 2050 Growth Forecast Land Use	Alternative 2b: Modified Funding Strategy/ Modified Land Use	Alternative 3a: Transit Emphasis/ Modified Phasing/2050 Growth Forecast Land Use	Alternative 3b: Transit Emphasis/ Modified Phasing/ Modified Land Use	Alternative 4: 2050 RTP/SCS Transportation Network/ Modified Land Use	Alternative 5: Slow Growth
	T-2	LTS	S(>)	LTS(s)	LTS(>)	<u>LTS(<)</u>	<u>LTS(<)</u>	LTS(s)	<u>LTS(<)</u>
	T-3	LTS	S(>)	LTS(s)	LTS(s)	<u>LTS(<)</u>	<u>LTS(<)</u>	LTS(s)	<u>LTS(<)</u>
	T-4	LTS	S(>)	S(>)	S(>)	S(>)	S(>)	S(>)	<u>LTS(<)</u>
	T-5	LTS	S(>)	S(>)	S(>)	S(>)	S(>)	S(>)	<u>LTS(<)</u>
	2050								
	T-1	LTS	LTS(>)	LTS(s)	LTS(>)	LTS(>)	LTS(>)	LTS(>)	<u>LTS(<)</u>
	T-2	LTS	S(>)	S(>)	S(>)	LTS(s)	LTS(s)	S(>)	<u>LTS(<)</u>
	T-3	S	S(>)	S(s)	S(s)	<u>LTS(<)</u>	<u>LTS(<)</u>	S(s)	<u>S(<)</u>
	T-4	S	S(>)	S(>)	S(>)	S(>)	S(>)	S(s)	<u>S(<)</u>
	T-5	LTS	S(>)	S(>)	S(>)	S(>)	S(>)	S(>)	<u>LTS(<)</u>
17	Water Supply								
	2020								
	WS-1	S	S(>)	S(s)	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	WS-2	S	S(>)	S(s)	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	2035								
	WS-1	S	S(>)	S(s)	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	WS-2	S	S(>)	S(s)	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	2050								
	WS-1	S	S(>)	S(s)	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>
	WS-2	S	S(>)	S(s)	<u>S(<)</u>	S(s)	<u>S(<)</u>	<u>S(<)</u>	<u>S(<)</u>

¹Revisions to the Project Description from the Draft EIR to the Final EIR, as detailed in Chapter 2.0, resulted in adjustments to several performance indicator outputs, which are the basis for the significance criteria and are used to determine transportation impacts. As a result, several adjustments to impact conclusions for transportation impacts T-1 through T-4 are shown in strikethrough underline text in Section 4.16.4. None of these adjustments resulted in new or more significant transportation impacts for the 2050 RTP/SCS. In fact, some impacts are less significant than those presented in the Draft EIR. These changes do, however, affect the alternatives comparison analysis. Changes to the alternatives comparison analysis are not shown in strikethrough underline in this table for readability purposes. Please refer to Tables 6.3-1 through 6.3-7 to make this comparison.

Legend:

LTS	Less than significant environmental impact
S	Significant environmental impact
(s)	Impact of alternative is same as or similar to impact of the 2050 RTP/SCS
(<)	Impact of alternative is less than the impact of the 2050 RTP/SCS
(>)	Impact of alternative is greater than the impact of the 2050 RTP/SCS
S(s)	Significant environmental impact and same impact as 2050 RTP/SCS
S(<)	Significant environmental impact but less impact than the 2050 RTP/SCS
S(>)	Significant environmental impact but greater impact than the 2050 RTP/SCS
LTS(s)	Less than Significant environmental impact and same impact as 2050 RTP/SCS
LTS(<)	Less than Significant environmental impact but less impact than the 2050 RTP/SCS
LTS(>)	Less than Significant environmental impact but greater impact than the 2050 RTP/SCS
S(>)	Impact of alternative increases from LTS to S compared to proposed project
LTS(<)	Impact of alternative decreases from S to LTS compared to proposed project
*	Does not apply in 2050 since California ARB has not developed a target for 2050