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SANDAG

BOARD OF DIRECTORS
AGENDA

Friday, October 9, 2015
10 a.m. to 3 p.m.
SANDAG Board Room
401 B Street, 7th Floor
San Diego

AGENDA HIGHLIGHTS

• SAN DIEGO FORWARD: THE REGIONAL PLAN,
INCLUDING ITS SUSTAINABLE COMMUNITIES
STRATEGY AND FINAL ENVIRONMENTAL
IMPACT REPORT

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MESSAGE FROM THE CLERK

In compliance with Government Code §54952.3, the Clerk hereby announces that the compensation
for legislative body members attending the following simultaneous or serial meetings is: Executive
Committee (EC) $100, Board of Directors (BOD) $150, and Regional Transportation Commission (RTC)
$100. Compensation rates for the EC and BOD are set pursuant to the SANDAG Bylaws and the
compensation rate for the RTC is set pursuant to state law.

MISSION STATEMENT

The 18 cities and county government are SANDAG serving as the forum for regional decision-making.
SANDAG builds consensus, makes strategic plans, obtains and allocates resources, plans, engineers,
and builds public transit, and provides information on a broad range of topics pertinent to the
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Welcome to SANDAG. Members of the public may speak to the Board of Directors on any item at the time the Board is considering the item. Please complete a Speaker's Slip, which is located in the rear of the room, and then present the slip to the Clerk of the Board seated at the front table. Members of the public may address the Board on any issue under the agenda item entitled Public Comments/Communications/Member Comments. Public speakers are limited to three minutes or less per person. The Board of Directors may take action on any item appearing on the agenda.

Public comments regarding the agenda can be sent to SANDAG via comment@sandag.org. Please include the agenda item, your name, and your organization. Email comments should be received no later than 12 noon, two working days prior to the Board of Directors meeting. *Any handouts, presentations, or other materials from the public intended for distribution at the Board of Directors meeting should be received by the Clerk of the Board no later than 12 noon, two working days prior to the meeting.*

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ITEM NO. | RECOMMENDATION
--- | ---
1. | PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS

Public comments under this agenda item will be limited to five public speakers. Members of the public shall have the opportunity to address the Board on any issue within the jurisdiction of SANDAG that is not on this agenda. Other public comments will be heard during the items under the heading “Reports.” Anyone desiring to speak shall reserve time by completing a “Request to Speak” form and giving it to the Clerk of the Board prior to speaking. Public speakers should notify the Clerk of the Board if they have a handout for distribution to Board members. Public speakers are limited to three minutes or less per person. Board members also may provide information and announcements under this agenda item.

REPORTS

+2. | SAN DIEGO FORWARD: THE REGIONAL PLAN, INCLUDING ITS SUSTAINABLE COMMUNITIES STRATEGY AND FINAL ENVIRONMENTAL IMPACT REPORT
(San Diego Councilmember Todd Gloria, Transportation Committee Chair; Phil Trom, Andrew Martin)

ADOPT

The Board of Directors is asked to:

1. Adopt Resolution No. 2016-05, certifying that the Final Environmental Impact Report (EIR) for San Diego Forward: The Regional Plan (Regional Plan) has been completed in compliance with the California Environmental Quality Act (Public Resources Code §21000 et seq.), that the Final EIR was presented to, reviewed, and considered by the Board of Directors prior to approving the Project, and that the Final EIR represents the independent judgment and analysis of SANDAG; and adopting the Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program; and

2. Adopt Resolution No. 2016-06, adopting the air quality conformity determination, finding that the Sustainable Communities Strategy (SCS) achieves the greenhouse gas reduction targets established by the California Air Resources Board, and meets the requirements codified in Government Code §65080(b) et seq.; finding that the Revenue Constrained Plan is in conformance with the State Implementation Plans for air quality; and adopting the Regional Plan, including its SCS, and the Final 2050 Regional Growth Forecast.

3. | CONTINUED PUBLIC COMMENTS

If the five speaker limit for public comments was exceeded at the beginning of this agenda, other public comments will be taken at this time. Subjects of previous agenda items may not again be addressed under public comment.

4. | UPCOMING MEETINGS

INFORMATION

The next Board Business meeting is scheduled for Friday, October 23, 2015, at 9 a.m.

5. | ADJOURNMENT

+ next to an agenda item indicates an attachment
SAN DIEGO FORWARD: THE REGIONAL PLAN, INCLUDING ITS SUSTAINABLE COMMUNITIES STRATEGY AND FINAL ENVIRONMENTAL IMPACT REPORT

File Number 3102000

Introduction

San Diego Forward: The Regional Plan (Regional Plan) combines the big-picture vision for how our region will grow over the next 35 years with an implementation program to make that vision a reality. The Regional Plan, including its Sustainable Communities Strategy (SCS), is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050. The Regional Plan also integrates the elements of the Regional Comprehensive Plan (RCP) and combines the RCP elements within the Regional Plan and SCS.

The Regional Plan outlines nearly $204 billion in transportation investments, paid for by local, state, and federal tax dollars (in year of expenditure). Projects will be phased in as funds become available, but the goal is to complete these projects as early as possible to provide more travel choices. The Regional Plan’s investment strategy focuses heavily on expanding public transit and active transportation (biking and walking), while also reconfiguring existing highways to promote carpooling, public transit, and other alternatives to driving alone.

The updated general plans for San Diego’s local jurisdictions call for a region that grows differently than in the past, concentrating new housing and jobs in existing urban areas while

Recommendation

The Board of Directors is asked to:

1. Adopt Resolution No. 2016-05, certifying that the Final Environmental Impact Report (EIR) for San Diego Forward: The Regional Plan (Regional Plan) has been completed in compliance with the California Environmental Quality Act (Public Resources Code §21000 et seq.), that the Final EIR was presented to, reviewed, and considered by the Board of Directors prior to approving the Project, and adopting the Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program; and

2. Adopt Resolution No. 2016-06, adopting the air quality conformity determination, finding that the Sustainable Communities Strategy (SCS) achieves the greenhouse gas reduction targets established by the California Air Resources Board, and meets the requirements codified in Government Code §65080(b) et seq.; finding that the Revenue Constrained Plan is in conformance with the State Implementation Plans for air quality; and adopting the Regional Plan, including its SCS, and the Final 2050 Regional Growth Forecast.
preserving open space. To accomplish this, the Regional Plan’s SCS, based on the most recent local planning assumptions, demonstrates how the regional development pattern, transportation network, policies, and programs can work together to achieve per capita greenhouse gas (GHG) emission reduction targets for cars and light-duty trucks. The California Air Resources Board (ARB) has set a target for the San Diego region to lower GHG emissions from cars and light-duty trucks by 7 percent per capita by 2020, and by 13 percent per capita by 2035, compared with a 2005 baseline. The Regional Plan’s SCS will result in lowered GHG emissions that will exceed the state’s reduction targets, reaching per capita reductions of 15 percent by 2020 and 21 percent by 2035.

SANDAG implemented a comprehensive public outreach and involvement program to support the development of the Regional Plan. The Regional Plan Public Involvement Program is based on the SANDAG Public Participation Plan, which was adopted by the Board of Directors in 2012. Efforts to involve the public in the development of the Regional Plan have been tracked and recorded to chronicle the large number and wide range of activities organized and held by SANDAG beginning in 2012. Additionally, updates to public comments and responses on the Draft Regional Plan that occurred between the September 11, 2015, Board of Directors meeting and the writing of this report are included as Attachment 5 of this report. The Public Comments and Responses matrix is included in Appendix F of the Regional Plan.

Discussion

Final Environmental Impact Report

Attachment 1 is the resolution certifying the Final Environmental Impact Report (EIR) prepared for the Regional Plan and adopting the Findings (Attachment 1A), Statement of Overriding Considerations (Attachment 1B), and Mitigation Monitoring and Reporting Program (Attachment 1C).

The Final EIR consists of: (1) the Draft EIR, including revisions; (2) all appendices to the Draft EIR (Appendices A-J); and (3) comments received on the Draft EIR; a list of persons, organizations, and public agencies commenting on the Draft EIR; SANDAG responses to significant environmental points raised in the review and consultation process; and Master Responses to comments and other information (bound separately as Appendix K). SANDAG received 34 communications, each containing multiple EIR comments, during the public review period. The Final EIR incorporates changes made to the Draft EIR as a result of comments received during the public review period and minor changes made to the Draft Regional Plan. Changes made to the Draft EIR did not result in any new significant impacts not addressed in the Draft EIR, or increase the severity of significant impacts identified in the Draft EIR.

Pursuant to Public Resources Code §21081 and California Environmental Quality Act (CEQA) Guidelines §15091, SANDAG has prepared findings for every significant impact identified in the EIR and for each alternative evaluated in the EIR, as well as alternatives and mitigation measures proposed in comments on the Draft EIR that were not evaluated in detail (Attachment 1A).

Even after adoption of all feasible mitigation measures, the Regional Plan will have significant impacts that cannot be mitigated to less than significant. SANDAG has prepared a Statement of Overriding Considerations in compliance with Public Resources Code §21081 and CEQA Guidelines §15093, which concludes that specific economic, legal, social, technological, and other benefits of
the Regional Plan outweigh the significant and unavoidable impacts identified in the EIR (Attachment 1B).

Additionally, SANDAG has prepared a Mitigation Monitoring and Reporting Program in compliance with Public Resources Code §21081.6 and CEQA Guidelines §15097 to ensure compliance with the mitigation measures identified in the EIR during project implementation and operation (Attachment 1C).

**Air Quality Conformity Determination**

Attachment 2 describes the process used to document the conformity of the Regional Plan Revenue Constrained Plan and the 2014 Regional Transportation Improvement Program Amendment No. 7 with the State Implementation Plans for air quality. This process, which is required by federal law, involves estimating regional vehicle emissions resulting from the Revenue Constrained Plan and making a determination that they meet established emissions budgets.

**2050 Regional Growth Forecast**

On October 15, 2013, the Board of Directors accepted the 2050 Regional Growth Forecast (Series 13) for planning purposes. Attachment 3 summarizes the Final 2050 Regional Growth Forecast, which also is included as Appendix J to the Regional Plan.

**Achieving Senate Bill 375 Greenhouse Gas Reduction Targets**

Attachment 4 includes a finding that, consistent with SANDAG analysis, the Regional Plan and its SCS, if implemented, achieve ARB’s Senate Bill 375 (Steinberg, 2008) (SB 375) per capita GHG reduction targets for cars and light-duty trucks. As described in the September 11, 2015, Board report, the ARB heard an informational update on the Draft Regional Plan and its SCS at its June 25, 2015, meeting. After the Regional Plan is adopted, ARB staff will collaborate with SANDAG staff to complete its technical evaluation, allowing ARB to determine that the Regional Plan, and its SCS, if implemented, achieve ARB’s SB 375 GHG emission reduction targets. The ARB Executive Officer will issue an ARB executive order accepting or rejecting the determination.

**Regional Plan**

At its September 11, 2015, meeting, the Board of Directors considered comments received on the Regional Plan before that date as well as staff responses to those comments. The Board of Directors also accepted the proposed modifications to the Draft Regional Plan. The changes were incorporated into the Regional Plan. Attachment 4 is the resolution adopting the air quality conformity determination, finding that the SCS achieves the SB 375 GHG reduction targets, and adopting the Regional Plan, including its SCS, and the Final 2050 Regional Growth Forecast.

**Updated Responses to Comments on Regional Plan and Final Environmental Impact Report**

Attachment 5 is an updated matrix of comments received on the Regional Plan and responses, including those received after the September 11, 2015, Board of Directors meeting.
Next Steps

Following action by the Board of Directors, staff will submit the Regional Plan, including its SCS, to the U.S. Department of Transportation (U.S. DOT) and the U.S. Environmental Protection Agency, and request that the U.S. DOT make its air quality conformity determination prior to December 2, 2015. The Regional Plan and its SCS also will be submitted to ARB to make the final determination that the Regional Plan and its SCS, if implemented, achieve ARB’s SB 375 per capita GHG emission reduction targets.

GARY L. GALLEGOS
Executive Director

Attachments: 1. Resolution No. 2016-05
   1A. CEQA Findings of Fact
   1B. Statement of Overriding Considerations for the Regional Plan
   1C. Mitigation Monitoring and Reporting Program
2. Appendix B: Air Quality Planning and Transportation Conformity
3. Regional Growth Forecast
4. Resolution No. 2016-06
5. Updated Public Comments and Responses on the Draft Regional Plan
   (revised after September 11, 2015, Board of Directors meeting)

Key Staff Contact: Phil Trom, (619) 699-7330, phil.trom@sandag.org
Andrew Martin, (619) 595-5375, andrew.martin@sandag.org

Note: The Regional Plan including its SCS, Appendices, and Final EIR may be obtained from the SANDAG website at sandag.org or from the San Diego Forward: The Regional Plan website at sdforward.com. CDs of all of the documents will be available free of charge by contacting the SANDAG Public Information Office at (619) 699-1950. Copies of the Regional Plan as well as the Final EIR in printed format may be purchased for the cost of reproduction.
RESOLUTION NO. 2016-05

A RESOLUTION OF THE SAN DIEGO ASSOCIATION OF GOVERNMENTS (SANDAG) BOARD OF DIRECTORS CERTIFYING THE FINAL ENVIRONMENTAL IMPACT REPORT PREPARED FOR SAN DIEGO FORWARD: THE REGIONAL PLAN AND ITS SUSTAINABLE COMMUNITIES STRATEGY (SCH# 2010041061), AND ADOPTING ENVIRONMENTAL FINDINGS PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT; A STATEMENT OF OVERRIDING CONSIDERATIONS; AND A MITIGATION MONITORING AND REPORTING PROGRAM

WHEREAS, San Diego Forward: The Regional Plan ("the Project") proposes and encompasses the planning foundation for transportation improvements and regional growth throughout the San Diego region through 2050, and provides a comprehensive plan for preserving and improving the quality of life in the San Diego region, maximizing mobility and transportation choices, and conserving and protecting natural resources; and

WHEREAS, pursuant to the California Environmental Quality Act ("CEQA") (Public Res. Code, §21000 et seq.) and the State CEQA Guidelines (14 Cal. Code Regs. §15000 et seq.), SANDAG is the lead agency for the Project; and

WHEREAS, SANDAG prepared a Program Environmental Impact Report ("EIR") (SCH# 2010041061) and provided full disclosure and analysis of the significant environmental effects of the Project; and

WHEREAS, SANDAG issued a Notice of Preparation ("NOP") of a Draft EIR on December 14, 2012, and circulated the NOP for a period of 60 days pursuant to State CEQA Guidelines §§15082(a), 15103 and 15375; and

WHEREAS, pursuant to State CEQA Guidelines §15206 and §15082, SANDAG publicly noticed and held a public scoping meeting on January 10, 2013, for the purpose of soliciting comments from the public and potential responsible and trustee agencies, including details about the scope and content of the environmental information related to the responsible and trustee agencies’ areas of statutory responsibility, as well as the significant environmental issues, reasonable alternatives, and mitigation measures that the responsible and trustee agencies would need to have analyzed in the Draft EIR; and

WHEREAS, 14 written statements were received by SANDAG in response to the NOP, which assisted SANDAG in narrowing the issues and alternatives for analysis in the Draft EIR; and

WHEREAS, a Draft EIR was completed and released for public review on May 21, 2015, and SANDAG initiated a 55-day public comment period by filing a Notice of Completion and Notice of Availability with the State Office of Planning and Research; and

WHEREAS, pursuant to Public Resources Code §20192, SANDAG also provided a Notice of Availability to all organizations and individuals who previously had requested such notice and published a Notice of Availability for the Draft EIR on or about May 21, 2015, in a newspaper of general circulation. In addition, SANDAG placed copies of the Draft EIR at the offices of SANDAG and online at www.sdforward.com; and
WHEREAS, during the 55-day comment period, SANDAG consulted with and requested comments from responsible and trustee agencies, other regulatory agencies, and others pursuant to State CEQA Guidelines §15086; and

WHEREAS, during the official public review period for the Draft EIR, SANDAG received 34 communications, each containing comments on the Draft EIR, which are included in the Final EIR; and

WHEREAS, after the official public review period for the Draft EIR, SANDAG received 3 additional communications containing comments on the Draft EIR, which also are included in the Final EIR; and

WHEREAS, SANDAG evaluated all comments on environmental issues received during the official public review period on the Draft EIR, and prepared written responses to these comments, which are included in the Final EIR; and

WHEREAS, SANDAG prepared the Final EIR, consisting of: (1) the Draft EIR, including revisions; (2) all appendices to the Draft EIR (Appendices A-J); and (3) comments and recommendations received on the Draft EIR, a list of persons, organizations, and public agencies commenting on the Draft EIR, SANDAG responses to significant environmental points raised in the review and consultation process, Master Responses to comments and other information (bound separately as “Appendix K”); and

WHEREAS, pursuant to Public Resources Code §21092.5(a) and State CEQA Guidelines §15088(b), SANDAG provided proposed written responses to all agencies, as well as organizations and individuals, that submitted timely comments on the Draft EIR at least ten days prior to certification of the EIR; and

WHEREAS, SANDAG made the Final EIR publically available on its website on October 2, 2015; and

WHEREAS, the Final EIR satisfies all the requirements of CEQA and the State CEQA Guidelines; and

WHEREAS, the Final EIR sufficiently analyzes both the feasible mitigation measures that could avoid or substantially lessen the Project’s significant environmental impacts and a reasonable range of alternatives to avoid or substantially lessen these effects in accordance with CEQA and the State CEQA Guidelines; and

WHEREAS, all of the findings and conclusions made by SANDAG pursuant to this Resolution are based upon the oral and written evidence presented to it as a whole, and are not based solely on the information provided in this Resolution; and

WHEREAS, the SANDAG Board of Directors, at a regular session assembled on October 9, 2015, reviewed and considered the significant environmental impacts of the Project, including but not limited to information and data in the Final EIR; comments on the Draft EIR received during and after the close of the Draft EIR public review period; all written and oral testimony given at meetings and hearings; and submission of testimony from the public, organizations, and public agencies; and
WHEREAS, no comments made in the public hearings conducted by SANDAG, or any additional information submitted to SANDAG, have produced significant new information requiring recirculation or additional environmental review under State CEQA Guidelines §15088.5; and

WHEREAS, SANDAG has prepared CEQA Findings in compliance with Public Resources Code §§21081 and 21081.5 and CEQA Guidelines Section §15091 for every significant impact of the Project identified in the EIR and for each alternative evaluated in the EIR, including an explanation of the rationale for each finding (attached hereto as Attachment 1A); and

WHEREAS, the Project will have significant impacts that cannot be mitigated to less than significant levels, and SANDAG has prepared a Statement of Overriding Considerations in compliance with Public Resources Code §21081 and State CEQA Guidelines §15093 (attached hereto as Attachment 1B), which concludes that specific economic, legal, social, technological, and other benefits of the Project outweigh the significant and unavoidable impacts identified in the EIR; and

WHEREAS, SANDAG has prepared a Mitigation Monitoring and Reporting Program in compliance with Public Resources Code §21081.6 and State CEQA Guidelines §15097 (attached hereto as Attachment 1C) to ensure compliance with the mitigation measures identified in the Final EIR during project implementation and operation; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred;

NOW THEREFORE BE IT RESOLVED by the SANDAG Board of Directors that the foregoing recitals are true and correct and incorporated by this reference; and

BE IT FURTHER RESOLVED that the SANDAG Board of Directors finds that the Final EIR consists of: (1) the Draft EIR, including revisions; (2) all appendices to the Draft EIR (Appendices A-J); and (3) comments and recommendations received on the Draft EIR, a list of persons, organizations, and public agencies commenting on the Draft EIR, SANDAG responses to significant environmental points raised in the review and consultation process, Master Responses to comments and other information (bound separately as “Appendix K”); and

BE IT FURTHER RESOLVED that, pursuant to State CEQA Guidelines § 15090, the SANDAG Board of Directors hereby certifies that the Final EIR (SCH# 2010041061) has been completed in compliance with CEQA (Public Resource Code §21000 et seq.), that the Final EIR was presented to and reviewed and considered by the SANDAG Board of Directors prior to approving the Project, and that the Final EIR represents the independent judgment and analysis of SANDAG; and

BE IT FURTHER RESOLVED that the SANDAG Board of Directors makes and adopts the Findings required in CEQA Guidelines §15091, which are attached hereto as Attachment 1A and incorporated fully by this reference; and

BE IT FURTHER RESOLVED that the SANDAG Board of Directors adopts the Statement of Overriding Considerations as required by CEQA Guidelines §15093, which is attached hereto as Attachment 1B and incorporated fully by this reference; and
BE IT FURTHER RESOLVED that the SANDAG Board of Directors adopts the Mitigation Monitoring and Reporting Program as required by State CEQA Guidelines §15097, which is attached hereto as Attachment 1C and incorporated fully by this reference.

PASSED AND ADOPTED this 9th day of October, 2015.

ATTEST:

CHAIR

SECRETARY

MEMBER AGENCIES: Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista, and County of San Diego.

ADVISORY MEMBERS: California Department of Transportation, Metropolitan Transit System, North County Transit District, Imperial County, U.S. Department of Defense, San Diego Unified Port District, San Diego County Water Authority, Southern California Tribal Chairmen's Association, and Mexico.
ATTACHMENT 1A
CEQA FINDINGS OF FACT

I. INTRODUCTION TO CEQA FINDINGS

These findings are made pursuant to the California Environmental Quality Act (Pub. Res. Code §21000 et seq., “CEQA”) and the CEQA Guidelines (Cal. Code Regs. Title 14, §15000 et seq.) by the Board of Directors of the San Diego Association of Governments (“SANDAG”) as the lead agency for San Diego Forward: The Regional Plan and its Sustainable Communities Strategy (the “Plan”). These findings pertain to Environmental Impact Report (“EIR”) SCH #2010041061.

A. PROJECT DESCRIPTION SUMMARY

SANDAG, as the Regional Transportation Commission and federally designated Metropolitan Planning Organization (“MPO”) for the San Diego region, builds consensus, develops strategic plans, obtains and allocates resources, and provides information on a broad range of topics pertinent to the region’s quality of life. As a regional Council of Governments, voting members of the agency consist of the County of San Diego and 18 cities in the region.

San Diego Forward (the Plan) is the combination and update of the Regional Comprehensive Plan for the San Diego Region (RCP) and the Regional Transportation Plan/Sustainable Communities Strategy RTP/SCS) into one plan. The Plan is an update to the 2050 RTP/SCS adopted in 2011.

The Plan includes a blueprint for a regional transportation system, serving existing and projected residents and workers within the San Diego region that further enhances quality of life and offers more mobility options for people and goods. The Plan looks approximately 35 years ahead, accommodating more than 925,000 new residents, nearly half a million new jobs, and over 300,000 new homes.

The Plan’s Sustainable Communities Strategy (SCS) envisions most of the forecasted new jobs and homes to be situated in sustainable communities, conducive to transit, walking, and bicycling. To achieve this, future growth would 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 would create more active mixed-use communities, while allowing for the protection of more open space land in the eastern portion of the region.

Under Senate Bill (SB) 375, the Regional Transportation Plan must include an SCS consisting of land use, housing, and transportation strategies that, if implemented, would allow the region to meet its regional targets for GHG emissions reductions from passenger vehicle use established by the California Air Resources Board (ARB). The purpose of an SCS is to align regional transportation, housing, and land use planning to attain the regional GHG reduction targets.

Building on the current transportation system with funding anticipated over the next 35 years, the Plan outlines projects for rail and bus services, highways, local streets, bicycling, and walking, as well as systems and demand management. The result would be an integrated, multimodal transportation system by mid-century. The Plan’s SCS shows how the region would exceed the SB 375 GHG emissions reduction targets for passenger vehicles established by ARB 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 per capita vehicle miles traveled and gives residents alternative transportation options.
Although SB 375 sets GHG reduction targets for only the years 2020 and 2035, the Plan also includes a longer 2050 time horizon. This was done because a major local transportation funding program (the TransNet Extension Ordinance and Expenditure Plan) extends to almost 2050.

B. PROJECT OBJECTIVES (EIR SECTION 2.4)

SANDAG developed the following basic project objectives for the San Diego Forward EIR:

1. Focus population and employment growth in existing urbanized areas to protect sensitive habitat and natural resource areas.
2. Provide transportation investments that support compact land development patterns.
3. Meet greenhouse gas (GHG) emissions targets for passenger cars and light-duty trucks.
4. Provide transportation investments and land use patterns that promote public health and safety.
5. Use TransNet revenue as matching funds to maximize funding from non-TransNet sources.
6. Provide access to jobs and key destinations for all communities.
7. Make transportation investments that reduce travel times for all trips.
8. Enhance the efficiency of the transportation network through the deployment of new technologies.

C. TYPE OF EIR

This EIR for the Plan is a Program EIR, which CEQA Guidelines Section 15168(a) defines as an EIR that may be prepared on a series of actions that can be characterized as one large project and are related (1) geographically; (2) as logical parts in the chain of contemplated actions; (3) in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts that can be mitigated in similar ways.

A Program EIR can provide a comprehensive environmental review for a program of related projects, such as the Plan, that are to be developed over a long period of time. This allows lead agencies to consider program-wide alternatives and cumulative impacts consistently, and avoids unnecessary repetition of analysis in subsequent project-specific reviews (see CEQA Guidelines Section 15168(b)).

The degree of specificity in an EIR corresponds to the degree of specificity of the underlying activity being evaluated (CEQA Guidelines Section 15146). This EIR analyzes impacts of the Plan at the same level of detail as the Plan. This EIR provides a foundation for second-tier CEQA documents for subsequent projects, but does not analyze the project-specific impacts of individual projects. Project-specific and site-specific details of subsequent transportation and land use projects will vary widely. When a first-tier Program EIR is prepared, “leaving project-specific details to subsequent EIRs when specific projects are considered” is a proper approach to CEQA tiering (In re Bay Delta [2008] 43 Cal. 4th 1143, 1174).

D. PROCEDURAL COMPLIANCE WITH CEQA

SANDAG published a Draft Environmental Impact Report (EIR) on May 21, 2015 and a Final EIR on October 2, 2015, in compliance with CEQA requirements. SANDAG prepared the Final EIR in accordance with CEQA and the CEQA Guidelines. As allowed for in CEQA Guidelines §15084(d)(2), SANDAG retained a consultant to assist with the preparation of the environmental documents. SANDAG, acting as lead agency, has directed, reviewed and edited as necessary all material prepared by the consultant, and such material reflects SANDAG’s independent judgment In general, the preparation of the EIR included the following key steps and public notification efforts:
A 60-day scoping process began with SANDAG’s issuance of the Notice of Preparation (NOP) of an EIR on December 14, 2012. The NOP was filed with the State Clearinghouse on December 14, 2012, which started a 60-day comment period that ended February 15, 2013. SANDAG noticed and held an EIR scoping meeting on January 10, 2013, at the SANDAG Office to receive perspective and input from agencies, organizations, and individuals on the scope and content of the environmental information to be addressed in the EIR.

SANDAG issued the Draft EIR on May 21, 2015. The Notice of Availability for the Draft EIR was published in local newspapers and mailed to an extensive distribution list. The Draft EIR was also posted on SANDAG’s website and available for review at the SANDAG Office. In addition, Draft EIRs were distributed to those who provided comments on the NOP, the SANDAG Board of Directors, managers of all 19 SANDAG jurisdictions, and public libraries throughout the region.

The Notice of Completion for the Draft EIR was filed with the State Clearinghouse on May 21, 2015. The Draft EIR was available for a 55-day public review period starting May 21, 2015. Following close of the public review period, SANDAG revised the Draft EIR, including the project description, in response to comments received during the public review period, and provided written responses addressing all significant environmental issues raised. Revisions made to the Draft EIR are shown throughout the Final EIR in strikethrough and underline text.

SANDAG published the Final EIR on October 2, 2015. SANDAG provided written responses to all public agencies that commented on the Draft EIR on September 29, 2015, which is at least 10 days prior to certifying the EIR. The SANDAG Board of Directors held a public hearing on October 9, 2015, to consider certification of the Final EIR.

E. INCORPORATION OF FINAL EIR BY REFERENCE

The Final EIR is hereby incorporated by reference into these Findings. The Final EIR consists of: (1) the Draft EIR, including revisions; (2) all appendices to the Draft EIR (Appendices A-J), including revisions; and (3) comments received on the Draft EIR; a list of persons, organizations, and public agencies commenting on the Draft EIR; SANDAG’s responses to significant environmental issues raised in the review and consultation process; Master Responses to comments; and other information (bound separately as “Appendix K”).

II. FINDINGS REGARDING ENVIRONMENTAL IMPACTS

Pursuant to Public Resources Code §21081 and CEQA Guidelines §15091, no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out unless the public agency makes one or more of the following findings with respect to each significant impact:

1. Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.
2. Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.
3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report. (The concept of infeasibility also encompasses whether a particular alternative or mitigation measure promotes the Project’s underlying goals and objectives, and whether an alternative or mitigation measure is impractical or undesirable from a policy standpoint. See City of Del Mar v. City of San Diego (1982) 133 Cal.App.3d 410; California Native Plant Society v. City of Santa Cruz (2009) 177 Cal.App.4th 957.)
SANDAG has made one or more of these specific written findings regarding each significant impact associated with the Plan. Those findings are presented below, along with a presentation of facts in support of the findings. The Board certifies these findings are based on full appraisal of all viewpoints, including all comments received up to the date of adoption of these findings, concerning the environmental issues identified and discussed.

The EIR evaluation included a detailed analysis of impacts on 16 resource topics, and analyzed impacts of the Plan and alternatives to the Plan, including a No Project Alternative. The EIR disclosed the environmental impacts that would result from the adoption and implementation of the Plan. Feasible mitigation measures were identified intended to avoid or substantially lessen significant environmental effects.

III. FINDINGS REGARDING ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT

Public Resources Code § 21081 and CEQA Guidelines § 15091 do not require findings of fact for impacts that are less than significant. Nevertheless, for the sake of completeness, the SANDAG Board of Directors hereby finds that the following environmental impacts of the Plan either have would not occur or are less than significant. These findings are based on the detailed impact analyses provided in Sections 4.1 through 4.16 of the EIR and the cumulative impacts discussed in Chapter 5.0 of the EIR. Under CEQA, no mitigation measures are required for impacts that are less than significant (CEQA Guidelines § 15126.4(a)(3)).

A. AIR QUALITY (EIR SECTION 4.3)

AQ-1 Conflict with or obstruct the implementation of applicable air quality attainment plans (2020, 2035, 2050)

The SANDAG Board of Directors finds that forecasted regional growth and land use change under implementation of the Plan would be subject to and implement the measures for control of ozone precursor emissions (ROG and NOx) identified in the State Implementation Plan (SIP) for Ozone and the 2009 Regional Air Quality Strategy (RAQS) Revision. Planned transportation network improvements and programs would result in modeled emissions of ozone precursors (ROG and NOX) and CO in 2020, 2035, and 2050 that are less than the conformity emissions budgets for these pollutants identified in the SIP and federal CO maintenance plan (see EIR Appendix C-1 and EIR Tables 4.3-7, 4.3-8, 4.3-9). In addition, the planned transportation network improvements and programs would be consistent with the transportation control measures (TCMs) identified in the SIP and RAQS. Therefore, this impact (AQ-1) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to conflicts with or obstruction of applicable air quality plans, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, would not cause a significant cumulative impact. These other plans include the Southern California Association of Governments (SCAG) 2012-2035 RTP/SCS and its EIR; San Diego Air Pollution Control District 2009 Regional Air Quality Strategy Revision; South Coast Air Quality Management District 2012 Air Quality Management Plan; Imperial County Air Pollution Control District Ambient Air Monitoring Annual Network Plan and Final 2009 8 Hour Ozone Modified Air Quality Management Plan; EPA Border 2020 Program; Master Action Plan for California-Baja California; 2034 Tijuana, Tecate, and Playas de Rosarito Metropolitan Strategic Plan; and California-Baja California Master Plan. Therefore, the Plan’s incremental impacts related to conflicts with or obstruction of applicable air quality plans (AQ-1) are not cumulatively considerable in 2020, 2035, and 2050.
AQ-5 Expose a substantial number of people to objectionable odors (2020, 2035, 2050)
The SANDAG Board of Directors finds that odor sources within the SANDAG region, such as agricultural operations, wastewater treatment facilities, and landfills, are controlled by existing odor regulations, including SDAPCD Rule 51, which prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. Forecasted regional growth and land use change and planned transportation network improvements and programs would be subject to and implement regulatory measures restricting objectionable odors, including SDAPCD Rule 51. Therefore, this impact (AQ-5) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to exposure of a substantial number of people to objectionable odors, in combination with similar impacts that would result in the southern California and northern Baja region based on projections in adopted plans, would not be cause a significant cumulative impact. These other plans include the SCAG 2012-2035 RTP/SCS and its EIR; SDAPCD 2009 RAQS; South Coast Air Quality Management District 2012 Air Quality Management Plan; Imperial County Air Pollution Control District Ambient Air Monitoring Annual Network Plan and Final 2009 8 Hour Ozone Modified Air Quality Management Plan; EPA Border 2020 Program; Master Action Plan for California-Baja California; 2034 Tijuana, Tecate, and Playas de Rosarito Metropolitan Strategic Plan; and California-Baja California Master Plan. Therefore, the Plan’s incremental impacts related to exposure of a substantial number of people to objectionable odors (AQ-5) are not cumulatively considerable in 2020, 2035, and 2050.

B. BIOLOGICAL RESOURCES (EIR SECTION 4.4)

BIO-4 Conflict with the provisions of an adopted Habitat Conservation Plans (HCPs), Natural Community Conservation Plans (NCCPs), or other conservation plan, or with any local policies or ordinances protecting biological resources (2020, 2035, 2050)

The SANDAG Board of Directors finds that implementation of the Plan would follow the policies and procedures of adopted of HCPs and NCCPs, including boundary adjustments, compensation, or project redesign. Forecasted regional growth and land use change and planned transportation network improvements within softline and hardline preserve areas identified by adopted HCP and NCCPs would not result in any conflicts with the provisions of adopted HCPs and NCCPs. Therefore, this impact (BIO-4) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to conflicts with adopted policies of HCPs and NCCPs and other local policies and ordinances protecting biological resources, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans and other cumulative projects, wound not cause a significant cumulative impact. Other adopted plans and projects include the SCAG 2012-2035 RTP/SCS and EIR, SANDAG MHCP and EIS/EIR, County of San Diego MSCP and EIR, SDCWA Subregional NCCP/HCP and EIR/EIS, Western Riverside County Multi-Species Habitat Conservation Plan and EIR/EIS, Coachella Valley MSHCP and EIR/EIS, Strategic Plan of the Commission for Environmental Cooperation 2010-2015, California-Baja California Border Master Plan, the Los Angeles to San Diego segment of the California High Speed Train, and the SR 241 Extension Project. Therefore, the Plan’s incremental impacts related to conflicts with adopted HCPs and NCCPs and other local policies and ordinances protecting biological resources (BIO-4) are not cumulatively considerable in 2020, 2035, and 2050.
C. CULTURAL AND PALEONTOLOGICAL RESOURCES (EIR SECTION 4.5)

CULT-2 Disturb any human remains, including those interred outside of formal cemeteries, in violation of existing laws and regulations protecting human remains (2020, 2035, 2050)

The SANDAG Board of Directors finds that although ground-disturbing activities associated with the implementation of forecasted regional growth and land use change and planned transportation network improvements have the potential to uncover buried human remains, existing laws and regulations would be followed, ensuring that any human remains encountered are treated appropriately. Therefore, this impact (CULT-2) is less than significant in 2020, 2035, and 2050.

The Plan’s impacts related to disturbance of human remains in violation of existing laws and regulations, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS and EIR, County of San Diego General Plan Update EIR, and California-Baja California Border Master Plan, would not cause a significant cumulative impact. Therefore, the Plan’s incremental impacts related to disturbance of human remains in violation of existing laws and regulations (CULT-2) are not cumulatively considerable in 2020, 2035, and 2050.

D. ENERGY (EIR SECTION 4.6)

EN-1 Result in an increase in overall per capita energy consumption relative to baseline conditions, or otherwise use energy in an inefficient, wasteful, or unnecessary manner (2020, 2035, 2050)

The SANDAG Board of Directors finds that implementation of forecasted regional growth and land use change and planned transportation network improvements and programs would not result in an increase in overall per capita energy consumption, or otherwise use energy in an inefficient, wasteful, or unnecessary manner, because per capita energy use would decrease by approximately 14 percent from 2012 to 2020, approximately 31 percent from 2012 to 2035, and approximately 32 percent from 2012 to 2050 (see EIR Tables 4.6-3, 4.6-4, and 4.6-5). Therefore, this impact (EN-1) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to overall per capita energy consumption and use of energy in an inefficient, wasteful, or unnecessary manner, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans and other cumulative projects, would not cause a significant cumulative impact. Other adopted plans and cumulative projects include the SCAG 2012-2025 RTP/SCS and EIR, California Energy Commission California Energy Demand 2014-2024 Final Forecast, County of San Diego Strategic Energy Plan 2013-2014, San Diego Gas & Electric 2012 Long Term Procurement Plan, various energy projects identified in the California Energy Commission Energy Facility Status Report, and California High Speed Train. Therefore, the Plan’s incremental impacts related to overall per capita energy consumption relative to baseline conditions and use of energy in an inefficient, wasteful, or unnecessary manner (EN-1) are not cumulatively considerable in 2020, 2035, and 2050.

EN-2 Result in an increased reliance on fossil fuels and decreased reliance on renewable energy sources (2020, 2035, 2050)

The SANDAG Board of Directors finds that implementation of forecasted regional growth and land use change and planned transportation network improvements and programs would not result in increased reliance on fossil fuels and decreased reliance on renewable energy sources because total energy use would decrease, fossil fuel energy consumption would decrease, and renewable energy consumption would increase. Therefore, this impact (EN-2) is less than significant in 2020, 2035, and 2050.
The Plan’s impacts related to reliance on fossil fuels and renewable energy sources, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans and other cumulative projects, including the SCAG 2012-2025 RTP/SCS and EIR, California Energy Commission California Energy Demand 2014-2024 Final Forecast, County of San Diego Strategic Energy Plan 2013-2014, San Diego Gas & Electric 2012 Long Term Procurement Plan, various energy projects identified in the California Energy Commission Energy Facility Status Report, and California High Speed Train, would not cause a significant cumulative impact. Therefore, the Plan’s incremental impacts related to reliance of fossil fuels and renewable energy sources (EN-2) are not cumulatively considerable in 2020, 2035, and 2050.

E. GEOLOGY, SOILS, AND MINERAL RESOURCES (EIR SECTION 4.7)

\textit{GEO-1 Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, and seismically-induced landslides (2020, 2035, 2050)}

The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements would be subject to and implement existing laws and regulations that protect people and structures from risk of loss, injury, or death from exposure to substantial adverse geologic effects that result from earthquakes and seismic hazards. Existing laws and regulations include but are not limited to the Alquist-Priolo Earthquake Fault Zoning Act, the California Building Code, and the Seismic Hazards Mapping Act. Therefore, this impact (GEO-1) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to exposure of people and structures to substantial adverse effects, including risks associated with known earthquake fault rupture and other seismic hazards, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS and EIR, County of San Diego General Plan Update EIR, and California-Baja California Border Master Plan, would not cause a significant cumulative impact. Therefore, the Plan’s incremental impacts related to exposure of people and structures to substantial adverse effects, including risks associated with known earthquake fault rupture and other seismic hazards (GEO-1) are not cumulatively considerable in 2020, 2035, and 2050.

\textit{GEO-2 Locate projects on a geologic unit or soil that is expansive or 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 (2020, 2035, 2050)}

The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements would be subject to and implement existing laws and regulations that require projects located on expansive or unstable geologic units or soils to incorporate measures and design features that substantially lessen the potential for on- and off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Existing laws or regulations include but are not limited to project-specific geotechnical investigations required under the Alquist-Priolo Earthquake Fault Zoning Act, the California Building Code, Hazard Mitigation Plans, and local grading and erosion control regulations. Therefore, this impact (GEO-2) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related geologic hazards, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS and EIR, County of San Diego General Plan Update EIR, and California-Baja California Border Master Plan, would not cause a significant cumulative impact. Therefore, the Plan’s incremental impacts related to geologic hazards (GEO-2) are not cumulatively considerable in 2020, 2035, and 2050.
**GEO-3 Result in substantial soil erosion or the loss of topsoil (2020, 2035, 2050)**

The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements would be subject to and implement existing laws and regulations that substantially lessen soil erosion and loss of topsoil, including but not limited to the California Building Code, California Coastal Act policies, Construction General Permits including the requirement to prepare a Storm Water Pollution Prevention Plan (SWPPP), and local grading and erosion control regulations. Therefore, this impact (GEO-3) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to substantial soil erosion or the loss of topsoil, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS and EIR, County of San Diego General Plan Update EIR, and California-Baja California Border Master Plan, would not cause a significant cumulative impact. Therefore, the Plan’s incremental impacts related to substantial soil erosion or loss of topsoil (GEO-3) are not cumulatively considerable in 2020, 2035, and 2050.

**GEO-4 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water, potentially causing adverse groundwater impacts (2020, 2035, 2050)**

The SANDAG Board of Directors finds that although forecasted regional growth and land use change would occur in areas containing expansive soils or soils otherwise incapable of supporting the use of septic tanks or on-site wastewater treatment systems (OWTS), existing laws and regulations would ensure that new septic tanks, OWTS, or alternative waste water disposal systems would not cause adverse groundwater impacts. Existing laws and regulations include but are not limited to the California Building Code, County of San Diego Department of Environmental Health permit requirements for septic systems or OWTS, and the San Diego Regional Water Quality Control Board (San Diego Water Board) Basin Plan amendment adopted April 15, 2015, amending the criteria that the San Diego Water Board and local agencies use to regulate OWTS throughout the San Diego Region. Therefore, this impact (GEO-4) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to soils that are incapable of adequately supporting septic tanks or alternative waste water systems and potentially causing adverse groundwater impacts, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS and EIR, County of San Diego General Plan Update EIR, and California-Baja California Border Master Plan, would not cause a significant cumulative impact. Therefore, the Plan’s incremental impacts related to soils that are incapable of adequately supporting septic tanks or alternative waste water systems and potentially causing adverse groundwater impacts (GEO-4) are not cumulatively considerable in 2020, 2035, and 2050.

**F. GREENHOUSE GAS EMISSIONS (EIR SECTION 4.8)**

**GHG-1 Directly or indirectly result in an increase in GHG emissions compared to existing conditions (2012) (2020, 2035, 2050)**

The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements and programs would result in a decrease in GHG emissions compared to existing conditions (2012): total emissions in 2020 would be about 19 percent lower than in 2012, total emissions in 2035 would be about 27 percent lower than in 2012, and total emissions in 2050 would be about 25 percent lower than in 2012 (see EIR Appendix G-1 and EIR Tables 4.8-6, 4.8-7, and 4.8-8). Therefore, this impact (GHG-1) is less than significant in 2020, 2035, and 2050.
Regarding cumulative impacts, the Plan’s impacts related to increases in GHG emissions compared to existing conditions (2012), in combination with global emissions projections in adopted plans and other authoritative sources, including the California Air Resources Board 2014 Scoping Plan Update, United Nation’s Intergovernmental Panel on Climate Change Climate Change 2014 Synthesis Report, and World Resources Institute Total GHG Emissions by County, would not cause a significant cumulative impact because the Plan’s GHG emissions would decrease compared to 2012 levels. Therefore, the Plan’s incremental impacts related to direct or indirect increases in GHG emissions compared to existing conditions (2012) (GHG-1) are not cumulatively considerable in 2020, 2035, and 2050.

GHG-2 Conflict with AB 32, SANDAG Climate Action Strategy, or Local Climate Action Plans (2020, 2035, 2050)

The SANDAG Board of Directors finds that total GHG emissions for the San Diego region in 2020 (approximately 28.1 million metric tons of carbon dioxide equivalent [MMT CO₂e]) would be lower than the region’s “equal share” of the state emissions reduction target set forth in AB 32 (approximately 29 MMTCO₂e). The SANDAG Board of Directors also finds that the Plan would not conflict with applicable recommendations in the Air Resources Board’s (ARB) Scoping Plan Update, including but not limited to recommendations to increase investment in expanded transit and rail services, active transportation, and other VMT-reduction strategies within regional transportation plans, and recommendations to ensure that expected GHG emissions reductions from approved SCSs are achieved or exceeded. From 2012 to 2020, the Plan includes increased investment in transit and rail services, active transportation, and other VMT-reduction strategies including double-tracking along the LOSSAN rail corridor, increases in COASTER frequencies, completion of the Mid-Coast Trolley Extension from Old Town to University City, the South Bay Rapid Bus from the Otay Mesa ITC to Downtown San Diego, Rapid Bus Route 905 from Iris to the Otay Mesa POE, increases in local bus service frequencies, express bus routes to SDIA and Tijuana International Airport, a San Marcos shuttle, and construction of two transit-only lanes on SR 15 between I-805 and I-8.

By 2020, the Plan also includes investments in approximately 24 regional active transportation projects. Additional major transportation network improvements would include new Managed Lanes along I-5 from Manchester Avenue to SR 78 and I-805 from Carroll Canyon Road to SR 52, new toll lanes on SR 11 to the Otay Mesa POE, new general purpose lanes along a portion of SR 76, and a new freeway connector at SR 11 and SR 905. By 2020, these improvements would decrease average daily VMT per capita from 25.2 in 2012 to 24.7 in 2020. Therefore, forecasted regional growth and land use change and planned transportation network improvements and programs would not conflict with the AB 32 target of reducing statewide emissions to 1990 levels by 2020 or with the recommendations of the Scoping Plan Update. The AB 32 impact analysis in GHG-2 is limited to the year 2020.

The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements would not conflict with the SANDAG Climate Action Strategy (see EIR Table 4.8-9) or adopted local climate action plans (see EIR Appendix G-2). The Climate Action Strategy informed development of the Plan and the Plan incorporates Climate Action Strategy policies and supports their implementation. Therefore, this impact (GHG-2) is less than significant for 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to conflicts with AB 32, the SANDAG Climate Action Strategy, and local climate action plans, in combination with global emissions projections in adopted plans and other authoritative sources, including the California Air Resources Board 2014 Scoping Plan Update, United Nation’s Intergovernmental Panel on Climate Change Climate Change 2014 Synthesis Report, and World Resources Institute Total GHG Emissions by County, would not cause a significant cumulative impact because there are no Plan conflicts with AB 32, the SANDAG Climate Action Strategy, and local climate action plans. Therefore, the Plan’s incremental impacts related to conflicts with AB 32, the SANDAG Climate Action Strategy, and local climate action plans (GHG-2) are not cumulatively considerable in 2020, 2035, and 2050.
**GHG-3 Conflict with SB 375 GHG emission reduction targets (2020, 2035)**

The SANDAG Board of Directors finds that implementation of forecasted regional growth and land use change and planned transportation network improvements and programs would not only meet but exceed the GHG emission reduction targets established by the ARB for the SANDAG region (see EIR Appendix G-3 and EIR Tables 4.8-10 and 4.8-11). By 2020, the Plan’s 15 percent reduction would exceed the 7 percent reduction target set by ARB. By 2035, the Plan’s 21 percent reduction would exceed the 13 percent reduction target set by ARB. Because ARB has not developed a target for 2050, there would not be any impact in that year. Therefore, this impact (GHG-3) is less than significant in 2020 and 2035.

The Plan’s impacts related to conflicts with SB 375 GHG emission reduction targets, in combination with global emissions projections in adopted plans and other authoritative sources, including the California Air Resources Board 2014 Scoping Plan Update, United Nations’s Intergovernmental Panel on Climate Change (IPCC) Climate Change 2014 Synthesis Report, and World Resources Institute Total GHG Emissions by County, would not cause a significant cumulative impact because there are no Plan conflicts with the SB 375 emissions reduction targets. Therefore, the Plan’s incremental impacts related to conflicts with SB 375 GHG emission reduction targets (GHG-3) are not cumulatively considerable in 2020 and 2035.

**G. HAZARDS AND HAZARDOUS MATERIALS (EIR SECTION 4.9)**

**HAZ-1 Create a significant hazard by generating hazardous emissions or handling hazardous materials during pre-construction, demolition, and/or construction activities (2020, 2035, 2050)**

The SANDAG Board of Directors finds that pre-construction, demolition, and/or construction activities associated with forecasted regional growth and land use change and planned transportation network improvements would be subject to and implement existing laws and regulations that control the release of hazardous materials and emissions, including but not limited to US Environmental Protection Agency (USEPA) regulations, San Diego Regional Water Quality Control Board (RWQCB) regulations, Local Enforcement Agency (LEA) regulations, California Administrative Code provisions governing container design and how materials are secured, County of San Diego Department of Environmental Health (DEH) Hazardous Materials Division (HMD) routine compliance inspections, US Department of Transportation (USDOT) regulations for safe hauling procedures, and compliance with Chemical Accident Prevention Provisions (40 CFR Part 68). Therefore, this impact (HAZ-1) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to the creation of significant hazards by generating hazardous emissions or handling hazardous materials in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS EIR, San Diego County Multi-Jurisdictional Hazard Mitigation Plan, State of California Emergency Plan, and California-Baja California Master Plan, would not cause significant cumulative impacts. Therefore, the Plan’s incremental impacts related to the creation of significant hazards by generating hazardous emissions or handling hazardous materials (HAZ-1) are not cumulatively considerable in 2020, 2035, and 2050.

**HAZ-2 Create a significant hazard to the public, schools, or the environment through the routine use, handling, transport, or disposal of hazardous materials (2020, 2035, 2050)**

The SANDAG Board of Directors finds that routine use, handling, transport, and disposal of hazardous materials associated with forecasted regional growth and land use change and planned transportation network improvements, including within one-quarter mile of an existing or proposed school, would be subject to and implement existing laws and regulations that control the release of hazardous materials and emissions, including but not limited to Emergency Planning and Community Right to Know Act requirements governing storage and handling of toxic chemicals, USEPA Unified Program requirements and USEPA requirements under the Resource Conservation and Recovery Act of 1976, the Chemical
Regarding cumulative impacts, the Plan’s impacts related to the creation of significant hazards to the public, schools, or the environment through the routine use, handling, transport, or disposal of hazardous materials, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS EIR, the San Diego County Multi-Jurisdictional Hazard Mitigation Plan, State of California Emergency Plan, and California-Baja California Master Plan, would not cause significant cumulative impacts. Therefore, the Plan’s incremental impacts related to the creation of significant hazards to the public, schools, or the environment through the routine use, handling, transport, or disposal of hazardous materials (HAZ-2) are not cumulatively considerable in 2020, 2035, and 2050.

HAZ-3 Result in an air traffic hazard for people residing or working within an airport land use plan or within 2 miles of public or private airport, airstrip, or helipad, or result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (2020, 2035, 2050)

The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements and programs would be subject to and implement existing laws and regulations protecting people living and working near airports, airstrips, and helipads from air traffic hazards and substantial safety risks, including safety risks that could result from increases in traffic levels or changes in location. These existing laws and regulation include but are not limited to Airport Land Use Compatibility Plans adopted by the Airport Land Use Commission for the region’s public use airports (e.g., San Diego International Airport) and Department of Defense requirements to prepare Air Installation Compatible Use Zone (AICUZ) plans for major military air installations. Therefore, this impact (HAZ-3) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to air traffic hazards for people residing or working within an airport land use plan or within 2 miles of public or private airports, airstrips, or helipads, or changes in air traffic patterns that result in substantial safety risks, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS EIR, San Diego County Multi-Jurisdictional Hazard Mitigation Plan, State of California Emergency Plan, and California-Baja California Master Plan, would not cause significant cumulative impacts. Therefore, the Plan’s incremental impacts related to air traffic hazards for people residing or working within an airport land use plan or within 2 miles of public or private airports, airstrips, or helipads, or changes in air traffic patterns that result in substantial safety risks (HAZ-3) are not cumulatively considerable in 2020, 2035, and 2050.

HAZ-4 Impede implementation of an adopted emergency response plan or emergency evacuation plan or result in inadequate emergency access (2020, 2035, 2050)

The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements and programs would not impede implementation of adopted emergency response or evacuation plans, including the San Diego County Multi-Jurisdictional Hazard Mitigation Plan and the San Diego County Emergency Plan, or otherwise result in inadequate emergency access. The Board of Directors finds that adopted emergency response and evacuation plans contain provisions to ensure that development projects and transportation improvements would not conflict with emergency response or access during an emergency, and that such plans are regularly updated to account for the latest growth forecast. Therefore, this impact (HAZ-4) is less than significant in 2020, 2035, and 2050.
Regarding cumulative impacts, the Plan’s impacts related to impeding implementation of an adopted emergency response plan or emergency evacuation plan or resulting in inadequate emergency access, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS EIR, San Diego County Multi-Jurisdictional Hazard Mitigation Plan, State of California Emergency Plan, and California-Baja California Master Plan, would not cause significant cumulative impacts. Therefore, the Plan’s incremental impacts related to impeding implementation of an adopted emergency response plan or emergency evacuation plan or resulting in inadequate emergency access (HAZ-4) are not cumulatively considerable in 2020, 2035, and 2050.

H. HYDROLOGY AND WATER QUALITY (EIR SECTION 4.10)

HWQ-1 Substantially degrade water quality in violation of any water quality standards or waste discharge requirements (2020, 2035, 2050)
The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements and programs would be subject to and implement existing laws and regulations that prevent substantial degradation of water quality in violation of water quality standards and waste discharge requirements, including but not limited to Clean Water Act National Pollutant Discharge Elimination System (NPDES) permits controlling the discharge of pollutants from construction sites, Municipal Separate Storm Water Systems (MS4s), and point sources like wastewater treatment plants. Clean Water Act Section 404 permits regulating discharges of dredged or fill material to waters of the U.S.; Clean Water Act Section 401 Water Quality Certification ensuring compliance with state water quality standards; and San Diego RWQCB Waste Discharge Requirements for discharges to waters of the state. Therefore, this impact (HWQ-1) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to substantially degrading water quality in violation of any water quality standards or waste discharge requirements, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS EIR, the San Diego Integrated Regional Water Management Plan, and the Water Quality Control Plans for the San Diego, Colorado River, Santa Ana, Los Angeles, and Lahontan basins, would not cause significant cumulative impacts. Therefore, the Plan’s incremental impacts related to substantially degrading water quality in violation of any water quality standards or waste discharge requirements (HWQ-1) are not cumulatively considerable in 2020, 2035, and 2050.

HWQ-2 Substantially reduce groundwater quantity or quality (2020, 2035, 2050)
The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements would be subject to and implement existing laws and regulations that protect the quantity and quality of groundwater, including but not limited to best management practices (BMPs) required by the Construction General Permit and Low Impact Development (LID) measures required by the MS4 permit. Existing laws and regulations would require that land development and transportation projects implement measures that reduce, treat, infiltrate, and manage storm water runoff flows and facilitate groundwater recharge. Therefore, this impact (HWQ-2) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to substantially reducing groundwater quantity or quality, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS EIR, the San Diego Integrated Regional Water Management Plan, and the Water Quality Control Plans for the San Diego, Colorado River, Santa Ana, Los Angeles, and Lahontan basins, would not cause significant cumulative impacts. Therefore, the Plan’s incremental impacts related to substantially reducing groundwater quantity or quality (HWQ-2) are not cumulatively considerable in 2020, 2035, and 2050.
**HWQ-3 Substantially alter the existing drainage pattern of an area such that flood risk, erosion, or siltation would increase (2020, 2035, 2050)**

The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements would be subject to and implement existing laws and regulations that require projects to maintain predevelopment hydrology and retain and convey storm flows in a manner that protects the site and surrounding areas from increased risk of flood, erosion, and siltation, including but not limited to provisions of the Construction General Permit, MS4 permit requirements, local Hydromodification Management Plans, and the Caltrans Highway Design Manual. Therefore, this impact (HWQ-3) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to substantially altering the existing drainage pattern of an area such that flood risk, erosion, or siltation would increase, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS EIR, the San Diego Integrated Regional Water Management Plan, and the Water Quality Control Plans for the San Diego, Colorado River, Santa Ana, Los Angeles, and Lahontan basins, would not create significant cumulative impacts. Therefore, the Plan’s incremental impacts related to substantially altering the existing drainage pattern of an area such that flood risk, erosion, or siltation would increase (HWQ-3) are not cumulatively considerable in 2020, 2035, and 2050.

**HWQ-4 Expose people, structures or facilities to a significant risk of loss, injury, or death involving flooding, including within 100-year flood hazard areas and flooding as a result of the failure of a levee or dam (2020, 2035, 2050)**

The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements would be subject to and implement existing laws and regulations that protect people, structures, and facilities from exposure to a significant risk of loss, injury, or death involving flooding within a 100-year flood hazard area or flooding as a result of the failure of a levee or a dam, including but not limited to local floodplain management ordinances, local Hydromodification Management Plans, local general plan safety elements, and County of San Diego Office of Emergency Services requirements for projects located near dams or levees to develop emergency evacuation plans. Therefore, this impact (HWQ-4) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to exposure of people, structures, or facilities to a significant risk of loss, injury, or death involving flooding, including within 100-year flood hazard areas and flooding as a result of the failure of a levee or a dam, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS EIR, the San Diego Integrated Regional Water Management Plan, and the Water Quality Control Plans for the San Diego, Colorado River, Santa Ana, Los Angeles, and Lahontan basins, would not create significant cumulative impacts. Therefore, the Plan’s incremental impacts related to exposure of people, structures, or facilities to a significant risk of loss, injury, or death involving flooding, including within 100-year flood hazard areas and flooding as a result of the failure of a levee or a dam (HWQ-4) are not cumulatively considerable in 2020, 2035, and 2050.

**HWQ-5 Expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow (2020, 2035, 2050)**

The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements would be subject to and implement existing laws and regulations that protect people and structures from significant risk of inundation by seiche, tsunami, and mudflow, including but not limited to County of San Diego Office of Emergency Services requirement to develop emergency evacuation plans in the event of tsunami, seiche, or mudflow and State planning and zoning law requirements to address and plan for risks from seiche, tsunami, and mudflow in the general plan safety element.
The SANDAG Board of Directors also finds that the risk of tsunami in the San Diego region is low, and that there is no historical precedence in the region for large damaging seiches. Therefore, this impact (HWQ-5) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to exposure of people or structures to a significant risk of inundation by seiche, tsunami, or mudflow, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS and EIR, the San Diego Integrated Regional Water Management Plan, and the Water Quality Control Plans for the San Diego, Colorado River, Santa Ana, Los Angeles, and Lahontan basins, would not create significant cumulative impacts. Therefore, the Plan’s incremental impacts related to exposure of people or structures to a significant risk of inundation by seiche, tsunami, or mudflow (HWQ-5) are not cumulatively considerable in 2020, 2035, and 2050.

I. LAND USE (EIR SECTION 4.11)

LU-1 Physically divide an established community (2020)
The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements by 2020 would not physically divide any established community. Land development within existing established communities would typically occur on vacant or underutilized sites in accordance with adopted general plans and other subregional plans of the cities and the County, as well as their zoning and subdivision ordinances, which routinely prohibit developments that would physically divide established communities, and often include policies to remove existing physical barriers. New transportation facilities planned for completion by 2020, including the Mid-Coast Trolley Extension and SR 11, would not physically divide established communities according to project-specific CEQA and NEPA documentation completed for these projects. Therefore, this impact (LU-1) is less than significant in 2020.

Regarding cumulative impacts, the Plan’s impacts related to physically dividing an established community, in combination with similar impacts that would result in the southern California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS and EIR and County of San Diego General Plan Update and EIR, would not create significant cumulative impacts. Therefore, the Plan’s incremental impacts related to physically dividing an established community (LU-1) are not cumulatively considerable in 2020.

LU-2 Conflict with the land use portion of adopted local general plans or other applicable land use plans, including specific plans and community plans adopted for the purpose of avoiding or mitigating an environmental effect (2020)
The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements by 2020 would not conflict with the land use portion of adopted local general plans or other applicable land use plans and community plans adopted for the purpose of avoiding or mitigating an environmental effect. Forecasted land development by 2020 would occur in accordance with adopted local general plans and other land use plans. Some planned transportation network improvements by 2020 would involve temporary or permanent right-of-way acquisition adjacent to existing facilities or rights-of-way, but such acquisition would not conflict with the land use portions of adopted general plans or other land use plans. The Mid-Coast Trolley Extension would not result in such conflicts as determined by its project-specific CEQA and NEPA documentation. Therefore, this impact (LU-2) is less than significant in 2020.
Regarding cumulative impacts, the Plan’s impacts related to conflicting with the land use portion of adopted local general plans or other applicable land use plans, including specific plans and community plans adopted for the purpose of avoiding or mitigating an environmental effect, in combination with similar impacts that would result in the southern California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS and EIR and County of San Diego General Plan Update and EIR, would not create significant cumulative impacts because the Plan would create no such conflicts. Therefore, the Plan’s incremental impacts related to conflicting with the land use portion of adopted local general plans or other applicable land use plans (LU-2) are not cumulatively considerable in 2020.

J. NOISE AND VIBRATION (EIR SECTION 4.12)

N-5 Expose people residing or working near airports, private airstrips, or helipads to excessive noise levels (2020, 2035, 2050)
The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements would be subject to and implement existing laws and regulations that protect people residing and working near airports, private airstrips, and helipads from exposure to excessive noise levels, including but not limited to Airport Land Use Compatibility Plans adopted by the Airport Land Use Commission for the region’s public use airports (e.g., San Diego International Airport), Department of Defense requirements to prepare Air Installation Compatible Use Zone (AICUZ) plans for major military air installations, Caltrans Division of Aeronautics permitting requirements for private airstrips and helipads, Federal Aviation Administration (FAA) regulations governing aircraft noise, and California’s Airport Noise Standards. Therefore, this impact (N-5) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to exposure of people residing or working near airports, private airstrips, or helipads to excessive noise levels, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS and EIR, California-Baja California Border Master Plan, and 2008 San Diego International Airport (SDIA) Airport Master Plan EIR, would not create significant cumulative impacts. Therefore, the Plan’s incremental impacts related to exposure of people residing or working near airports, private airstrips, or helipads to excessive noise levels (N-5) are not cumulatively considerable in 2020, 2035, and 2050.

K. PUBLIC SERVICES AND UTILITIES (EIR SECTION 4.14)

US-3 Be served by landfills with insufficient permitted capacity to accommodate the project’s solid waste disposal needs (2020)
The SANDAG Board of Directors finds that landfills in the region, including the Miramar, Borrego, Okay, and Sycamore landfills, have sufficient capacity to accommodate forecasted regional growth and land use and planned transportation network improvements through 2020. Therefore, this impact (U-3) is less than significant in 2020.

Regarding cumulative impacts, the Plan’s impacts related to being served by landfills with insufficient permit capacity to accommodate the Plan’s solid waste disposal needs, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans, including the SCAG 2012-2035 RTP/SCS and EIR, would not create significant cumulative impacts. Therefore, the Plan’s incremental impacts related to being served by landfills with insufficient permit capacity to accommodate the Plan’s solid waste disposal needs (US-3) are not cumulatively considerable in 2020.
L. TRANSPORTATION (EIR SECTION 4.15)

T-2 Induce substantial vehicle travel (2020, 2035, 2050)
The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements and programs would not induce substantial vehicle travel because the increase in lane miles on highways, freeways, managed lanes, toll lanes, and arterials under the Plan would coincide with decreases in the percentage of drive-alone work trips, increases in carpool, transit, and walk/bike work trips, and decrease in average vehicle miles traveled (VMT) per capita (see EIR Tables 4.15-8 to 4.15-13). Therefore, this impact (T-2) is less than significant.

Regarding cumulative impacts, the impacts related to inducing substantial vehicle travel, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans and other cumulative projects, would not create significant cumulative impacts. Other adopted plans and cumulative projects include including the SCAG 2012-2035 RTP/SCS and EIR, SCAG 2015 Federal Transportation Improvement Program, San Diego County Regional Airport Authority (SDCRAA) 2008 Airport Master Plan and EIR, SDCRAA Aviation Activity Forecast, SDCRAA Regional Aviation Strategic Plan, Border 2020 Program Master Action Plan for California-Baja California, California-Baja California Border Master Plan, 2034 Tijuana, Tecate, and Playas de Rosarito Metropolitan Strategic Plan, California High Speed Train, and the SR 241 Extension Project. Therefore, the Plan’s incremental impacts related to inducing substantial vehicle travel (T-2) are not cumulatively considerable in 2020, 2035, and 2050.

T-3 Decrease the performance of public transit, bicycle, or pedestrian facilities (2020, 2035, 2050)
The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements and programs would not impair the performance of public transit, bicycle, or pedestrian facilities because it would increase the percentage of peak period transit and walk/bike trips to work, increase the percentage of population within proximity to high frequency transit stops and bike facilities, and increase the number of daily transit boardings. Average peak period travel time to work on transit would remain about the same by 2020 and would decrease by 2035 and 2050 (see EIR Tables 4.15-14 to 4.15-16). Therefore, this impact (T-3) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to decreasing the performance of public transit, bicycle, and pedestrian facilities, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans and other cumulative projects would not create significant cumulative impacts. Other adopted plans and cumulative projects include including the SCAG 2012-2035 RTP/SCS and EIR, SCAG 2015 Federal Transportation Improvement Program, San Diego County Regional Airport Authority (SDCRAA) 2008 Airport Master Plan and EIR, SDCRAA Aviation Activity Forecast, SDCRAA Regional Aviation Strategic Plan, Border 2020 Program Master Action Plan for California-Baja California, California-Baja California Border Master Plan, 2034 Tijuana, Tecate, and Playas de Rosarito Metropolitan Strategic Plan, California High Speed Train, and the SR 241 Extension Project. Therefore, the Plan’s incremental impacts related to decreasing the performance of public transit, bicycle, and pedestrian facilities (T-3) are not cumulatively considerable in 2020, 2035, and 2050.

T-4 Result in a substantially higher rate of systemwide accidents, collisions, injuries, or fatalities (by mode) (2020, 2035, 2050)
The SANDAG Board of Directors finds that forecasted regional growth and land use change and planned transportation network improvements and programs would not result in a substantially higher rate of systemwide accidents, collisions, injuries, or fatalities for vehicles, bicycles, or pedestrians because the rate of injury/fatal collisions for bicycles and pedestrians would improve and the rate of injury/fatal collisions...
for vehicles would remain constant (see EIR Tables 4.15-17 to 4.15-19). Further, the rate of injury/fatal collisions for vehicles is based on existing collisions rates and does not account for the Plan’s investments in TSM and TDM and other vehicle technologies, which would to improve safety. Therefore, this impact (T-4) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, the Plan’s impacts related to substantially increasing the rate of systemwide accidents, collisions, injuries, or fatalities (by mode), in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans and other cumulative projects, would not create significant cumulative impacts. Other adopted plans and cumulative projects include including the SCAG 2012-2035 RTP/SCS and EIR, SCAG 2015 Federal Transportation Improvement Program, San Diego County Regional Airport Authority (SDCRAA) 2008 Airport Master Plan and EIR, SDCRAA Aviation Activity Forecast, SDCRAA Regional Aviation Strategic Plan, Border 2020 Program Master Action Plan for California-Baja California, California-Baja California Border Master Plan, 2034 Tijuana, Tecate, and Playas de Rosarito Metropolitan Strategic Plan, California High Speed Train, and the SR 241 Extension Project. Therefore, the Plan’s incremental impacts related to substantially increasing the rate of systemwide accidents, collisions, injuries, or fatalities (by mode) (T-4) are not cumulatively considerable in 2020, 2035, and 2050.

T-5 Result in loss of parking that causes significant adverse environmental impacts (2020, 2035, 2050)
The SANDAG Board of Directors finds that planned transportation network improvements would, in some cases based on project-specific circumstances, result in loss of on-street parking, but such loss of parking would not cause significant adverse environmental impacts because of existing and planned SANDAG programs specifically designed to minimize vehicular traffic demand and reduce parking demand, including but not limited to the Transit Oriented Development Strategy, Urban Area Transit Strategy, Regional Complete Streets Strategy, TDM Policies, Regional Bike Plan, smart parking strategies, Safe Routes to School, Safe Routes to Transit, Guaranteed Ride Home, Regional Bike Parking Program, and investments to expand the reach of shared-use mobility (e.g., Uber, Lyft). Therefore, this impact (T-5) is less than significant in 2020, 2035, and 2050.

Regarding cumulative impacts, Plan’s impacts related to resulting in a loss of parking that causes significant adverse environmental impacts, in combination with similar impacts that would result in the southern California and northern Baja California region based on projections in adopted plans and other cumulative projects, would not create significant cumulative impacts. Other adopted plans and cumulative projects include including the SCAG 2012-2035 RTP/SCS and EIR, SCAG 2015 Federal Transportation Improvement Program, San Diego County Regional Airport Authority (SDCRAA) 2008 Airport Master Plan and EIR, SDCRAA Aviation Activity Forecast, SDCRAA Regional Aviation Strategic Plan, Border 2020 Program Master Action Plan for California-Baja California, California-Baja California Border Master Plan, 2034 Tijuana, Tecate, and Playas de Rosarito Metropolitan Strategic Plan, California High Speed Train, and the SR 241 Extension Project. Therefore, the Plan’s incremental impacts related to resulting in a loss of parking that causes significant adverse environmental impacts (T-5) are not cumulatively considerable in 2020, 2035, and 2050.

IV. FINDINGS REGARDING SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS
The SANDAG Board of Directors hereby finds that mitigation measures that have been identified in the EIR will lessen the following significant environmental impacts but not to a less than significant level. These findings are based on the discussion of impacts in the detailed issue area analyses in Sections 4.1 to 4.16 of the EIR and the cumulative impacts discussed in Chapter 5.0 of the EIR as well as relevant responses to comments in the Final EIR.
Impacts within the following resource categories will remain significant and unavoidable with implementation of all feasible mitigation measures:

- Aesthetics and Visual Resources
- Agricultural and Forestry Resources
- Air Quality
- Biological Resources
- Cultural and Paleontological Resources
- Energy
- Geology, Soils, and Mineral Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use
- Noise and Vibration
- Population and Housing
- Public Services and Utilities
- Recreation
- Transportation
- Water Supply

A. AESTHETICS AND VISUAL RESOURCES (EIR SECTION 4.1)

AES-1 Have a substantial adverse effect on a scenic vista (2020, 2035, 2050)

Significant Impact

By 2020, 2035 and 2050, forecasted regional growth and land use change and planned transportation network improvements would have substantial adverse effects on scenic vistas.

Mitigation Measure

Implementation of Mitigation Measure AES-1A would reduce this significant impact, but not to a less than significant level.

AES-1A Protect Public Views of Scenic Vistas. During planning, design, project-level CEQA review, and construction of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, ensure that projects protect public views of scenic vistas. Construction and operational measures include, but are not limited to, the following:

- Site construction staging areas away from scenic vistas. Where infeasible, reduce the visibility of construction staging areas. Fence and screen these areas with low contrast materials consistent with the surrounding environment.
- Avoid permanent obstruction of scenic vistas from public viewing areas when selecting alignments and the grade of new infrastructure (i.e., above, at, or below grade).
- Use see-through safety barrier designs (e.g., railings) rather than walls.

In addition, during planning, design, construction and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should incorporate scale and massing measures, including those listed under AES-1A, as well as measures specific to development projects. These measures include, but are not limited to, the following:

- Ensure building siting, height, and mass protect views of scenic vistas.
- Implement design guidelines, local policies, and programs aimed at protecting views of scenic vistas and avoiding visual intrusions. Projects should be designed to minimize contrasts in scale and massing between the project and surrounding natural forms and developments. Avoid large cuts and fills when the visual environment (natural or urban) would be substantially disrupted. Site or design of projects should minimize their intrusion into important viewsheds and use contour grading to better match surrounding terrain.
• Screen development adjacent to natural features as appropriate so that development does not appear visually intrusive, or interfere with the experience within the scenic vista. The provision of enhanced landscaping adjacent to natural features could be used to soften the appearance of or buffer development from the natural features.

• Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:
  - Creative site planning
  - Integration of natural features into the project
  - Appropriate scale, materials, and design to complement the surrounding natural landscape
  - Minimal disturbance of topography
  - Clustering of development to preserve a balance of open space vistas, natural features, and community character
  - Creation of contiguous open space networks

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measure AES-1A have been required in, or incorporated into, the Plan to reduce this significant impact on scenic vistas caused by blocking panoramic views or impeding public views of major landscape features or landforms. The SANDAG Board of Directors finds that specified provisions of this mitigation measure are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures AES-1A would reduce significant impacts on scenic vistas caused by blocking panoramic views or impeding public views of major landscape features or landforms. However, some of the transportation network improvements and development associated with regional growth and land use change are located in areas where substantial adverse effects on scenic vistas cannot be avoided. It cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the impact to a less than significant level, this impact (AES-1) remains significant and unavoidable.

AES-2 Substantially damage scenic resources, including but not limited to, trees, rocks, outcroppings, and historic bridges within a state scenic highway (2020, 2035, 2050)

Significant Impact

By 2020, 2035 and 2050, forecasted regional growth and land use change and planned transportation network improvements would substantially damage scenic resources, including trees, rock outcroppings, and historic structures within a state scenic highway, and local scenic routes and protected public views.
Mitigation Measures

Implementation of Mitigation Measures AES-2A, AES-2B, and AES-1A would reduce this significant impact, but not to a less than significant level.

AES-2A Reduce Impacts to scenic resources within a state scenic highway, local scenic resources, and public viewsheds. During planning, design, and project-level CEQA review of transportation network improvements within eligible or designated state scenic highways and local scenic resources and public viewsheds, SANDAG shall, and other transportation project sponsors can and should, ensure that projects are designed to reduce impacts. In addition, during planning, design and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should incorporate measures that ensure that projects are designed to reduce impacts to scenic resources within eligible and designated state scenic highways, and local scenic resources and public viewsheds. Measures include, but are not limited to, the following:

- Avoid damaging, moving, or removing trees, rock outcroppings, historic bridges, and other scenic resources from eligible or designated state scenic highway corridors and local scenic resources and public viewsheds, where those scenic resources are relevant to the designation or eligibility for designation as a state scenic highway or are identified as a protected visual resource in local plans. For projects within or adjacent to designated or eligible state scenic highway corridors, and local scenic resources and public viewsheds identified in local approved plans, prior to project approval, complete design studies identifying site-specific mitigation measures and during project construction, implement such mitigation measures to reduce impacts on the quality of the views or visual experience that originally qualified the highway for scenic designation, and protected status of local resources in approved plans.

AES-2B Reduce impacts to local scenic resources and public viewsheds. During planning, design, and project-level CEQA review of development projects within or adjacent to local scenic resources and public viewsheds, the County of San Diego, cities, and other local jurisdictions can and should, ensure that projects are designed to reduce impacts. In addition, during planning, design, and project-level CEQA review of development projects, project sponsors can and should incorporate measures that ensure that projects are designed to reduce impacts to local scenic resources and public viewsheds. Measures include, but are not limited to, the following:

- Apply development standards and guidelines to maintain compatibility with surrounding natural areas, including site coverage, building height and massing, building materials and color, landscaping, and site grading.
- Ensure vegetation used as screening and landscaping blends in and complements the natural landscape.
- Retain or replace trees within scenic resources and public viewsheds so that clear-cutting is not evident.
- Ensure grading blends with the adjacent landforms and topography.

In addition, Mitigation Measure AES 1-A Protect Public Views of Scenic Vistas would also help to reduce impacts to scenic resources, public viewsheds, and eligible and designated state scenic highways.
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures AES-2A, AES-2B, and AES-1A have been required in, or incorporated into, the Plan to reduce this significant impact to scenic resources, including resources within a state scenic highway and local scenic routes and protected public viewsheds. The SANDAG Board of Directors finds that specified provisions of this mitigation measure are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures AES-2A, AES-2B, and AES-1A would reduce significant impacts to scenic resources, including resources within a state scenic highway and local scenic routes and protected public viewsheds. However, some of the growth and land use change, and transportation network improvements are located in areas where damage, movement, or removal of trees, rocks, outcroppings, and other scenic resources cannot be avoided, such as improvements on state designated SR 125, and eligible scenic highways I-5, SR 76, SR 52, I-8, and SR 94. It cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the impact to a less than significant level, this impact (AES-2) remains significant and unavoidable.

AES-3 Substantially degrade the character of an area, including adding a visual element of urban character to an existing rural or open space area or by creating substantial new sources of light of glare that would adversely affect day or nighttime views (2020, 2035, 2050)

Significant Impact

By 2020, 2035, and 2050, forecasted regional growth and land use change and planned transportation network improvements would substantially degrade visual character, including adding visual elements of urban character to existing rural or open space areas.

Mitigation Measures

Implementation of Mitigation Measures AES-3A, AES-1A, AES-2A, and AES-2B would reduce this significant impact, but not to a less than significant level.

AES-3A Reduce impacts to visual character. During planning, design, and project-level CEQA review of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, ensure that projects are designed to reduce impacts. In addition, during planning, design and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should incorporate measures that ensure that projects are designed to reduce impacts. Measures include, but are not limited to, the following:

- Use contour grading to match surrounding terrain and existing natural, and man-made features of the area.
- Revegetate graded slopes and exposed earth surfaces prior to completion of construction.
• Construct permanent barriers (e.g., sound walls, safety barriers, retaining walls) of materials whose color and texture or treatment (e.g., landscaping cover) complements the surrounding landscape and development. Break up large barrier façades using techniques that include, but are not limited to, color, texture, landscaping, see-through safety barriers, and alternating façades.

In addition, Mitigation Measures AES-1A Protect Public Views of Scenic Vistas, AES-2A Reduce Impacts to Scenic Resources within a State Scenic Highway, and AES-2B Reduce Impacts to Local Scenic Resources and Public Viewsheds, would also help to reduce impacts to visual character.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures AES-3A, AES-2A, AES-2B, and AES-1A have been required in, or incorporated into, the Plan to reduce this significant impact of substantial degradation of visual character. The SANDAG Board of Directors finds that specified provisions of this mitigation measure are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures AES-3A, AES-2A, AES-2B, and AES-1A would reduce this significant impact of substantial degradation of visual character. However, while these mitigation measures reduce changes in visual character, it would be infeasible to prevent all instances of substantial degradation of visual character caused by regional growth and land use change as well as transportation network improvements. It cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the impact to a less than significant level, this impact (AES-3) remains significant and unavoidable.

**Cumulative Aesthetics and Visual Resources Impacts (EIR Section 5.2.1)**

**Significant Impacts**

Because cumulative aesthetic and visual resource impacts throughout the southern California and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental aesthetic and visual resource impacts are significant in 2020, 2035, and 2050, the Plan’s incremental aesthetic and visual resource impacts (AES-1, AES-2, and AES-3) are cumulatively considerable in 2020, 2035, and 2050.

**Mitigation Measures**

Implementation of Mitigation Measures AES-1A, AES-2A, AES-2B, and AES-3A would reduce the Plan’s significant aesthetic and visual resources impacts related to scenic vistas, scenic resources within state scenic highways, and degradation of visual character, but not to less than significant levels.
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures AES-1A, AES-2A, AES-2B, and AES-3A have been required in, or incorporated into, the Plan to reduce the significant cumulative aesthetic and visual resources impacts. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures AES-1A, AES-2A, AES-2B, and AES-3A would reduce the Plan’s significant cumulative aesthetic and visual resources impacts. However, while these mitigation measures reduce the Plan’s significant aesthetic and visual resources impacts, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to cumulatively significant aesthetic and visual resources impacts to less than significant levels, these impacts (AES-1, AES-2, and AES-3) remain cumulatively considerable post-mitigation.

B. AGRICULTURE AND FOREST RESOURCES (EIR SECTION 4.2)

AG-1 Convert agricultural lands to non-agricultural use (2020, 2035, 2050)

Significant Impact

Forecasted regional growth and land use change would convert the following amounts of existing agricultural land (all parcel sizes) to nonagricultural uses: about 10,472 acres from 2012 to 2020 (including about 2,000 acres of FMMP-designated lands), about 21,026 acres from 2012 to 2035 (including about 4,300 acres of FMMP-designated lands), and about 26,100 acres from 2012 to 2050 (including about 7,300 acres of FMMP-designated lands (EIR Tables 4.2-3, 4.2-5, 4.2-7). Implementation of planned transportation network improvements would convert the following amounts of existing agricultural land (all parcel sizes) to nonagricultural uses: about 482 acres from 2012 to 2020 (including about 28 acres of FMMP-designated lands), about 662 acres from 2012 to 2035 (including about 34 acres of FMMP-designated lands), and about 1,255 acres from 2012 to 2050 (including about 38 acres of FMMP-designated lands) (EIR Tables 4.2-4, 4.2-6, 4.2-8). In addition, forecasted regional growth and land use change near existing agricultural lands would indirectly decrease the viability of agricultural production on those lands in 2020, 2035, and 2050.

Mitigation Measures

Implementation of Mitigation Measures AG-1A and AG-1B would reduce this significant impact, though not to a less than significant level.

AG-1A Preserve Existing Agricultural Lands: During project design and project-level CEQA review of transportation network improvements or development projects, SANDAG shall and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, preserve existing agricultural lands by avoiding agricultural land conversion when feasible; if not feasible, measures to reduce conversion of agricultural lands to nonagricultural use include, but are not limited to, the following:
• Acquire or dedicate agricultural conservation easements (minimum acreage ratio of 1:1 of comparable quality land). If feasible, locate the easement within or in close proximity to the same city or community as the conversion occurs in. Where conversion occurs within the Coastal Zone, locate the easement within the Coastal Zone, if feasible.
• If a project requires cancellation of a Williamson Act contract, acquire or dedicate agricultural conservation easements (minimum acreage ratio of 1:1 of comparable quality land). If feasible, locate the easement within or in close proximity to the same city or community as the cancellation occurs in. Where the cancellation occurs within the Coastal Zone, locate the easement within the Coastal Zone, if feasible.
• Where agricultural conservation easements are acquired or dedicated, consider the suitability of a specific proposed easement on its ability to avoid or reduce fragmentation of agricultural land to enhance overall production value and operation viability.
• Where project-specific mitigation described above is not feasible, use other commensurate solutions, such as payment of an agricultural resource impact fee made pursuant to an approved in-lieu fee program.

AG-1B: Reduce Transportation Network Improvement and Development Conflicts with Agricultural Operations: During project design and project-level CEQA review of transportation network improvements or development projects, SANDAG shall and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should reduce conflicts with agricultural operations through the implementation of project design features and mitigation measures to protect surrounding agriculture, including, but not limited to, the following:
• Provide buffers, berms, setbacks, fencing, or other project design measures to protect surrounding agriculture, such topographic features, and open space, and to reduce conflict between transportation network improvements and/or developments and farming.
• Maintain and expand agricultural land protections such as urban growth boundaries;
• Minimize severance and fragmentation of agricultural land by constructing underpasses and overpasses at reasonable intervals to provide property access.
• Align corridors, incorporate buffer zones and setbacks, and berms and fencing to avoid agricultural lands and to reduce conflicts between transportation projects and agricultural lands.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures AG-1A and AG-1B have been required in, or incorporated into, the Plan to reduce this significant impact of converting existing agricultural lands to nonagricultural use. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures AG-1A and AG-1B would reduce significant impacts related to the direct and indirect conversion of existing agricultural lands to nonagricultural use. However, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the impact to a less than significant level, this impact (AG-1) remains significant and unavoidable.
AG-2 Conflict with existing zoning for agricultural use, or a Williamson Act contract (2020, 2035, 2050)

Significant Impact

Forecasted regional growth and land use change would conflict with the following lands: about 40,477 acres of land zoned for agricultural use and about 6,309 acres of Williamson Act contract lands from 2012 to 2020, about 92,178 acres of land zoned for agricultural use and about 19,435 acres of Williamson Act contract lands from 2012 to 2035, and about 105,529 acres of land zoned for agricultural use and about 19,754 acres of Williamson Act contract lands from 2012 to 2050. Planned transportation network improvements would conflict with the following lands: about 171 acres of land zoned for agricultural use and about 1 acre of Williamson Act contract lands from 2012 to 2020, and about 331 acres of land zoned for agricultural use and about 1 acre of Williamson Act contract lands from 2012 to 2035, and about 625 acres of land zoned for agricultural use and about two acres of Williamson Act contract lands from 2012 to 2050.

Mitigation Measures

Implementation of Mitigation Measures AG-1A and AG-1B would reduce this significant impact, though not to a less than significant level.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures AG-1A and AG-1B have been required in, or incorporated into, the Plan to reduce this significant impact of conflicts with existing zoning for agricultural use and Williamson Act contract lands. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures AG-1A and AG-1B would reduce significant impacts related to conflicts with existing zoning for agricultural use and Williamson Act contract lands. However, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the impact to a less than significant level, this impact (AG-2) remains significant and unavoidable.

FR-1 Convert or result in the loss of “Forest Land” as defined in the California Forest Legacy Act of 2007 (Public Resources Code Section 12220(g)) (2020, 2035, 2050)

Significant Impact

Forecasted regional growth and land use change would result in the loss of the following amounts of forest lands: about 10,561 acres from 2012 to 2020, about 25,375 acres from 2012 to 2035, and about 27,810 acres from 2012 to 2050. Planned transportation network improvements would result in the loss of the following amounts of forest lands: about 114 acres of forest lands from 2012 to 2020, about 134 acres of forest lands from 2012 to 2035, and about 166 acres from 2012 to 2050.
Mitigation Measure

Implementation of Mitigation Measure FR-1A would reduce this significant impact, though not to a less than significant level.

FR-1A: Reduce Impacts to Forest Lands During project planning, design and project-level CEQA review of transportation network improvements or development projects, SANDAG shall and other transportation project sponsors, the County of San Diego, cities and other local jurisdictions can and should preserve forest lands through avoiding conversion of forest lands when feasible, and if not feasible, through the implementation of measures to reduce impacts to forest lands. As a result, during project planning, design and project-level CEQA review, SANDAG shall and other transportation project sponsors, the County of San Diego, cities and other local jurisdictions can and should apply, but not be limited to, the following measures to reduce impacts to forest lands:

- **Implement Compensatory Mitigation of Forest Lands.** Provide compensatory mitigation using mitigation ratios as specified through consultation with resource agencies and in approved habitat conservation plans and ordinances. Consistent with the above plans and ordinances, compensatory mitigation outside the Coastal Zone 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. Compensatory mitigation for impacts inside the Coastal Zone may not be satisfied through in lieu fee programs and would occur within the Coastal Zone close 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.

- **Implement Offsite Mitigation.** When off-site mitigation is needed, 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 (in lieu fee programs would not be used to provide mitigation for impacts located within the Coastal Zone). When mitigation is provided outside of an adopted NCCP/HCP the following conditions would apply: mitigation lands would be connected to existing conserved open space; consideration would 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 would be mitigated within the same Critical Habitat Unit where the impacts occurred. Mitigation lands would 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. Habitat acquisitions, bank purchases, or fee program payments would be coordinated with resource agencies and regional habitat conservation and planning efforts such as the MSCP and MHCP.

- **Implement Compensatory Mitigation of Riparian Forests considered Jurisdictional Wetlands and Waters of the U.S. and/or State.** Provide compensatory mitigation for impacts to riparian forests considered jurisdictional wetlands and water of the U.S. and/or State, either through the purchase of credits at an existing authorized mitigation bank or in lieu fee program, or through project-specific mitigation. Compensatory mitigation for impacts inside the Coastal Zone may not be satisfied through in lieu fee programs and would occur within the Coastal Zone close to the impact.
The mitigation ratio for jurisdictional wetlands would 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 CDFW may result in a higher ratio. A minimum on-site mitigation/restoration ratio of 1:1 would be provided for temporary impacts, unless USACE and CDFW recommend a higher ratio. Prepare a mitigation and monitoring plan per the requirements of USACE and CDFW for all impacts to riparian forests considered jurisdictional wetlands and waters of the U.S. and/or State.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measure FR-1A have been required in, or incorporated into, the Plan to reduce this significant impact of loss of forest lands. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG's responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measure FR-1A would reduce significant impacts related to loss of forest lands. However, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the impact to a less than significant level, this impact (FR-1) remains significant and unavoidable.

Cumulative Agriculture and Forest Resources Impacts (EIR Section 5.2.2)

Significant Impacts

Because cumulative impacts to agriculture and forest resources throughout California by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental impacts to agriculture and forest resources are significant in 2020, 2035, and 2050, the Plan’s incremental impacts to agriculture and forest resources (AG-1, AG-2 and FR-1) are cumulatively considerable in 2020, 2035, and 2050.

Mitigation Measures

Implementation of mitigation measures AG-1A, AG-1B, and FR-1A above would reduce the Plan's significant agriculture and forest resources impacts related to conversion of existing agricultural land to nonagricultural use, conflicts with existing zoning for agricultural use and Williamson Act contracts, and loss of forest lands, but not to less than significant levels.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures AG-1A, AG-1B, and FR-1A have been required in, or incorporated into, the Plan to reduce the significant cumulative agriculture and forest resources impacts. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG's responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.
Implementation of Mitigation Measures AG-1A, AG-1B, and FR-1A would reduce the Plan’s significant cumulative agriculture and forest resources impacts. However, while these mitigation measures reduce the Plan’s significant agriculture and forest resources impacts, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to cumulatively significant agriculture and forest resources impacts to less than significant levels, these impacts (AG-1, AG-2, and FR-1) remain cumulatively considerable post-mitigation.

C. AIR QUALITY (EIR SECTION 4.3)

AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation (2020, 2035, 2050)

Significant Impact

Forecasted regional growth and land use change and planned transportation network improvements and programs would contribute substantially to existing violations of the 24-hour CAAQS for PM$_{10}$ (2020, 2035, and 2050) and existing violations of the annual CAAQS for PM$_{10}$ (2020, 2035, and 2050) and PM$_{2.5}$ (2035 and 2050) due to increases in mass PM$_{10}$ and PM$_{2.5}$ emissions relative to 2012 levels and local concentrations of 24-hour PM$_{10}$ and annual PM$_{10}$ and PM$_{2.5}$ (EIR Tables 4.3-10 to 4.3-19; EIR Figures 4.3-4 to 4.3-8). Increases in daily regional PM$_{10}$ and PM$_{2.5}$ mass emissions would also contribute to adverse effects on public health.

Mitigation Measures

Overview. Many features currently included in the Plan (e.g., the SCS, increased transit and active transportation investments) have the effect of reducing VMT that might otherwise occur, and as a result, would also decrease PM$_{10}$ and PM$_{2.5}$ emissions and their related health impacts associated with tire and brake wear and vehicle exhaust. Other potential mitigation measures to reduce total VMT and associated with PM$_{10}$ and PM$_{2.5}$ emissions and their related health impacts are included as components of the alternatives analyzed in Chapter 6.0, rather than as individual mitigation measures. These include still more compact land use patterns, accelerated and increased transit investments, reduced or no highway investments, and policies to reduce transit fares, increase parking prices, and establish road user fees.

Implementation of Mitigation Measures, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, EN-3B, GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H would reduce this significant impact, though not to a less than significant level.


During planning, design, and project-level CEQA review of transportation network improvements and programs or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, evaluate the potential for localized particulate (PM$_{10}$ and PM$_{2.5}$) impacts that result in exceedances of the CAAQS or NAAQS using applicable procedures and guidelines for such analyses (for example, SDAPCD and USEPA air dispersion modeling guidance). If impacts are significant, during project-level construction, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement BMPs to reduce impacts, including but not limited to:
Use fugitive dust control measures to reduce dust generation from exposed surfaces during construction, as specified in SDAPCD Rule 55 (SDAPCD 2009). SDAPCD Rule 55 requires that construction or demolition activities subject to this rule prevent the discharge of visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period; that visible roadway dust as a result of active construction and demolition operations be minimized by the use of any of the following or equally effective trackout/carry-out and erosion control measures that apply to the project or operation: track-out grates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and that trackout/carry-out dust be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. Compliance with these regulatory requirements is a performance standard for mitigation of construction activity particulate emissions. Reductions in fugitive dust emissions range from 40 to 80% for minimizing trackout to 91% for use of tarps or cargo covering when transporting material (SCAQMD 2007, WRAP 2006).

Use additional fugitive dust control measures such as watering or application of dust suppressants to reduce the generation of fugitive dust at active construction sites. Reductions in fugitive dust emissions range from 10 to 74% for watering of unpaved surface to 84% for use of dust suppressants (WRAP 2006).

Implement controls on haul trucks to reduce emissions from haul trucks transporting soil, sand, or other loose material off-site. Reductions in fugitive dust emissions are estimated at 91% for use of tarps or cargo covering when transporting material (SCAQMD 2007).

Remove visible mud or dirt track-out onto adjacent public roads. Reductions in fugitive dust emissions range from 40 to 80% for minimizing trackout (WRAP 2006).

Limit vehicle speeds on unpaved surfaces during construction to 15 mph. Reductions in fugitive dust emissions from unpaved surfaces are estimated at 57% (WRAP 2006).

Suspend excavation, grading, and/or demolition activities when average wind speeds exceed 20 mph. Reductions in fugitive dust emissions are estimated at 98% (WRAP 2006).

Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas. Reductions in fugitive dust emissions from wind erosion are estimated at 90% (WRAP 2006).

Wash all trucks and equipment, including their tires, prior to leaving the construction site. No quantitative estimate of the effectiveness of this measure is available.

Implement other site-specific fugitive dust control measures as warranted for individual construction projects for the transportation network and/or land use projects.

This mitigation measure would reduce short-term emissions of PM$_{10}$ during construction activities, and would therefore reduce the potential for exposure to significant concentrations of PM$_{10}$ from construction.

Mitigation Measures AQ-4A, AQ-4B, and AQ-4C, which are measures that reduce TAC emissions, would also reduce PM$_{10}$ and PM$_{2.5}$ emissions.

Mitigation Measures EN-3B Develop Energy Demand Calculations and Reduce Energy Demand would also reduce emissions of PM$_{10}$ and PM$_{2.5}$ by reducing conventional energy use and therefore reducing emissions associated with combustion of fossil fuels used in conventional power plants.
Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, which are described fully below under greenhouse gas impacts, would reduce emissions of PM$_{10}$ and PM$_{2.5}$ from tire wear and brake wear and vehicle exhaust, by reducing VMT or encouraging use of alternative fuels as explained below:

- **Mitigation Measure GHG-4A** Allocate Competitive Grant Funding to Projects that Reduce GHG Emissions. SANDAG would reduce VMT by adopting new or revised grant criteria to give greater weight to a project’s ability to directly reduce GHG emissions through, among other means, directly reducing VMT, for example, through parking strategies. Also, SANDAG would require locally adopted CAPs and complete streets policies, both of which typically reduce VMT, as prerequisites to be eligible for grant funding.
- **Mitigation Measure GHG-4B** Adopt a Detailed Regional Mobility Hub Implementation Plan to Reduce GHG Emissions. SANDAG would adopt a regional implementation plan for mobility hubs, which reduce vehicle trips and VMT through making it easier and more efficient to use transit, bicycles, and walking as alternatives to passenger vehicles.
- **Mitigation Measure GHG-4C** Fund Electric Vehicle Charging Infrastructure. SANDAG would provide funding for installation of a network of publicly available electric vehicle charging infrastructure that would reduce particulate emissions by extending the electric range of plug-in hybrid electric vehicles that would replace gasoline-powered internal combustion engines.
- **Mitigation Measure GHG-4D** Adopt a Plan for Transportation Fuels that Reduce GHG Emissions. SANDAG would adopt a plan for the deployment of alternative fuel infrastructure, which would contribute to particulate emissions reductions by contributing to increases in alternative fueled vehicles in the regional vehicle fleet that replace vehicles traditionally powered by gasoline and diesel.
- **Mitigation Measure GHG-4E** Assist in the Preparation of Climate Action Plans and Other Measures to Reduce GHG Emissions. SANDAG would provide financial and technical assistance to local governments in the preparation of CAPs, and other policies/measures to reduce GHG emissions, which typically include VMT reduction measures.
- **Mitigation Measure GHG-4F** Implement Measures to Reduce GHG Emissions from Transportation Projects. SANDAG would implement measures during construction and operation of transportation projects that reduce consumption of gasoline, diesel, and electricity, and as a result, reduce associated particulate emissions.
- **Mitigation Measure GHG-4G** Implement Measures to Reduce GHG Emissions from Transportation Projects. Transportation project sponsors other than SANDAG could implement measures during construction and operation of transportation projects that reduce consumption of gasoline, diesel, and electricity, and as a result, reduce associated particulate emissions.
- **Mitigation Measure GHG-4H** Implement Measures to Reduce GHG Emissions from Development Projects. The County of San Diego and cities can and should implement measures to reduce GHG emissions, including measures to reduce VMT such as:
  - Increasing transit use, carpooling, bike-share and car-share programs, and active transportation.
  - Parking strategies based on the SANDAG Regional Parking Management Toolbox.
  - Transportation Systems Management (TSM) measures.
  - Land use siting and design measures.
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B have been required in, or incorporated into, to reduce this significant impact of contributing substantially to existing violations of the 24-hour CAAQS for PM$_{10}$ and annual CAAQS for PM$_{10}$ and PM$_{2.5}$. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B would reduce significant impacts related to contributing substantially to existing violations of the 24-hour CAAQS for PM$_{10}$ and annual CAAQS for PM$_{10}$ and PM$_{2.5}$. However, it cannot be guaranteed that these measures would reduce regional emissions or particulate emissions from all projects so that violations of air quality standards would be avoided. These mitigation measures would also reduce health impacts associated with violations of air quality standards. However, using available methodologies, it is not possible to provide meaningful or accurate quantification of the reductions in health effects associated with reductions in particulate emissions in this regional analysis.

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the impact to a less than significant level, this impact (AQ-2) remains significant and unavoidable.

AQ-3 Result in a cumulatively considerable net increase of emissions of any criteria pollutant for which the region is in nonattainment under applicable NAAQS and CAAQS (2020, 2035, 2050)

Significant Impact

Forecasted regional growth and land use change and planned transportation network improvements and programs would result in cumulatively considerable net increases of PM$_{10}$ emissions in 2020, 2035, and 2050 and cumulatively considerable net increases of PM$_{2.5}$ emissions in 2035 and 2050 (EIR Tables 4.3-20, 4.3-21, 4.3-22). The San Diego region is in nonattainment for the 24-hour CAAQS for PM$_{10}$ and the annual CAAQS for PM$_{2.5}$.

Mitigation Measures

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B would reduce this significant impact, but not to a less than significant level.

Mitigation Measure AQ-2A, as described in Impact AQ-2, and Mitigation Measures AQ-4A, AQ-4B, and AQ-4C described under Impact AQ-4 would reduce particulate impacts at the project level.
Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, as described in Impact AQ-2, would also reduce particulate emissions by reducing VMT and increasing use of alternative fuels and therefore reducing emissions from vehicles.

Mitigation Measure EN-3B would also reduce particulate impacts by reducing conventional energy use and therefore reducing emissions associated with combustion of fossil fuels used in conventional power plants.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B have been required in, or incorporated into, the Plan to reduce this significant impact of cumulatively considerable increases in particulate emissions. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B would reduce significant impacts related to cumulatively considerable increases in particulate emissions. However, it cannot be guaranteed that these measures would reduce regional emissions or particulate emissions from all projects so that emissions would be less than cumulatively considerable. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the impact to a less than significant level, this impact (AQ-3) remains significant and unavoidable.

AQ-4 Expose sensitive receptors to substantial pollutant concentrations (2020, 2035, 2050)

Significant Impact

In 2020, 2035, and 2050, forecasted regional growth and land use change and planned transportation network improvements and programs would expose sensitive receptors to substantial concentrations of toxic air contaminant (TAC) emissions that result in incremental increases in cancer risk over baseline (2012) conditions that exceed 10 chances in one million (0.001 percent) and total cancer risk above 100 chances in one million (0.01 percent) (EIR Tables 4.3-23, 4.3-24, 4.3-27, 4.3-28, 4.3-31, 4.3-32; EIR Figures 4.3-10 to 4.3-14).

Mitigation Measures

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B would reduce this significant impact, but not to a less than significant level.
Overview. Many features currently included in the Plan (e.g., the SCS, increased transit and active transportation investments) have the effect of reducing VMT that might otherwise occur, and as a result, would also decrease TAC emissions and their related health impacts. Other potential mitigation measures to reduce total VMT and associated TAC emissions and their related health impacts are included as components of the alternatives analyzed in Chapter 6.0, rather than as individual mitigation measures in this section. These include still more compact land use patterns, accelerated and increased transit investments, reduced or no highway investments, and policies to reduce transit fares, increase parking prices, and establish road user fees.

Mitigation Measure AQ-4A. Reduce Exposure to Localized Particulate and/or TAC Emissions. During planning, design, and project-level CEQA review of transportation network improvements and programs, SANDAG shall, and other transportation project sponsors can and should, evaluate the potential TAC impacts for the health risks of the project using applicable procedures and guidelines for such analyses (for example, California Air Pollution Control Officers’ Association [CAPCOA], OEHHA, and/or USEPA air toxics health risk assessment guidance). If impacts result in increased risks to sensitive receptors above 10 in a million for cancer risks or hazards above 1.0 for noncancer risks, SANDAG shall, and other transportation project sponsor, can and should apply measures to reduce TAC emissions, including but not limited to the following:

- Plant trees and/or vegetation suited to trapping TACs and/or sound walls between sensitive receptors and the pollution source. This measure would trap TACs emitted from pollution sources such as freeways, reducing the amount of TACs to which residents and other sensitive populations would be exposed. The effectiveness of TAC removal from tree plantings ranges from 4.6% per hour (Fuller, et al. 2009) to a total of greater than 50% (Maher et al., 2013); sound walls achieve reductions up to about 50% and a combination of sound walls and vegetation achieve reductions up to about 60 % (ARB 2012a).

In addition, during planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should apply the above measures, and additional measures to reduce TAC emissions or exposure to TAC emissions, including but not limited to:

- For land use projects located within 500 feet of a freeway or urban roads with 100,000 vehicles/day or rural roads, install air filtration (as part of mechanical ventilation systems or standalone air cleaners) to reduce cancer risks (as well as PM exposure) for residents and other sensitive populations in buildings that are close to transportation network improvement projects. Use air filtration devices rated MERV-13 or higher. As part of implementing this measure, require an ongoing maintenance plan for the building’s HVAC air filtration system. This measure would reduce exposure of residents and other sensitive populations to TACs and would thus reduce cancer risks. This measure is estimated to reduce indoor levels of particulates, including DPM, by 70% to 90% (ARB 2012a).

- Reduce the potential for TACs to be introduced into buildings by:
  - Maintaining a positive air pressure within buildings that include sensitive receptors.
  - Achieving a performance standard of at least one air exchange per hour of fresh outside filtered air.
  - Achieve a performance standard of at least 4 air exchanges per hour of recirculation.
  - Achieve a performance standard of at least 0.25 air exchanges per hour of unfiltered air if the building is not positively pressurized.
• Design sites to locate sensitive receptors away from any freeways, roadways, diesel generators, distribution centers, and rail yards. Locate operable windows, balconies, and building air intakes away from these sources. If near a distribution center, do not locate residents immediately adjacent to a loading dock or where trucks concentrate to deliver goods. This measure would reduce exposure of residents and other sensitive populations to TACs emitted from freeways, roadways, diesel generators, distribution centers, and rail yards, both by locating them away from these sources and by reducing the potential exposure within the building or on balconies.

• Within developments, separate sensitive receptors from truck activity areas, such as loading docks and delivery areas. This measure would reduce exposure of residents and other sensitive receptors by locating sources of TACs associated with loading docks and delivery areas away from sensitive receptors.

• Replace or retrofit existing diesel generators that are not equipped to meet ARB’s Tier 4 emission standards. This measure would reduce emissions of TACs from diesel generators by an estimated 95% as compared with Tier 1 standards (ARB 2012b).

• Reduce emissions from diesel trucks using the project site through the following measures:
  o Install electrical hook-ups for electric or hybrid trucks at loading docks.
  o Require trucks to use Transportation Refrigeration Units (TRUs) that meet Tier 4 emission standards.
  o Require truck-intensive projects to use advanced exhaust technology (e.g., hybrid) or alternative fuels.
  o Prohibit trucks from idling for more than 2 minutes as feasible.
  This measure would reduce emissions of TACs from trucks and TRUs by reducing operations and requiring them to use electrical hookups.

• Do not locate sensitive receptors in the same buildings as a perchloroethylene dry cleaning facility. This measure would reduce potential exposure of sensitive receptors to perchloroethylene from dry cleaning facilities.

• Maintain a 50-foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year). This measure would reduce potential exposure of sensitive receptors to emissions from gas stations.

Ensure that private (individual and common) exterior open space, including playgrounds, patios, and decks, is shielded from stationary sources of air pollution by buildings or otherwise buffered to further reduce air pollution exposure for project occupants. This measure would reduce the potential for exposure of residents and other sensitive populations to stationary sources of TAC emissions.

**AQ-4B Reduce diesel emissions during construction from off-road equipment.** For impacts to air quality from construction exhaust as a result of transportation network improvements and programs or development projects, during project-level CEQA review and construction, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement BMPs to reduce TAC (and PM) impacts from off-road equipment, including, but not limited to, the following:

• Ensure off-road equipment greater than 25 hp that will be operating for more than 20 hours during construction meets the following requirements:
  o By 2015, provide engines that meet or exceed either USEPA or ARB Tier 2 off-road emission standards; by 2020, provide engines that meet or exceed either USEPA or ARB Tier 3 off-road emission standards; or
Retrofit engines with an ARB Level 3 Verified Diesel Emissions Control Strategy (VDECS), if available for the equipment being used, unless the equipment meets Tier 4 emission standards.

If project-specific analysis demonstrates that the above measures would not adequately reduce impacts (as determined by the project-level lead agency), then by 2015, provide engines that meet or exceed either USEPA or ARB Tier 3 off-road standards, and by 2020, provide engines that meet or exceed either USEPA or ARB Tier 4 off-road standards.

- Monitor idling time of diesel-powered construction equipment and limit to no more than 2 minutes.
- Maintain and properly tune construction equipment in accordance with the manufacturers’ specifications.
- Prohibit portable diesel generators and use grid power when it is available. Use propane or natural gas generators when grid power electricity is not feasible.
- Use late model engines.
- Use low emission diesel products.
- Use alternative fuels in construction equipment.
- Use engine retrofit technology to control emissions from off-road equipment.

Requiring off-road equipment to meet Tier 2 standards would reduce DPM emissions up to 63 percent from Tier 1 standards; Tier 3 standards would reduce DPM emissions up to 63 percent for smaller Tier 1 engines; and Tier 4 standards would DPM reduce emissions up to 95 percent (USEPA 2015e).

**AQ-4C Reduce diesel particulate emissions from on-road vehicles used in construction.** For impacts to air quality from construction exhaust as a result of transportation network improvements and programs or development projects, during project-level CEQA review and construction, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement BMPs to reduce TAC (and PM) impacts from on-road vehicles, including but not limited to:

- Monitor idling time of diesel-powered trucks, and limit to no more than 2 minutes.
- Provide clear signage for construction workers at all access points.
- Maintain and properly tune vehicles in accordance with the manufacturers’ specifications.
- Ensure that construction activity deliveries are scheduled during off-peak hours (e.g., 10:00 a.m. to 3:00 p.m.) and are coordinated to consolidate truck trips. When the movement of construction materials and/or equipment impacts traffic flow, provide temporary traffic control (e.g., flag person) to improve traffic flow.
- Use late model engines (2010 or newer model years).
- Use low emission diesel products in on-road vehicles.
- Use alternative fuels in on-road vehicles.
- Use engine retrofit technology on on-road vehicles.

**Mitigation Measure AQ-2A** would reduce the impacts associated with exposure of sensitive receptors to TACs by reducing construction emissions.

**Mitigation Measures EN-3B** Develop Energy Demand Calculations and Reduce Energy Demand would also reduce emissions of TACs by reducing conventional energy use and therefore reducing emissions associated with combustion of fossil fuels used in conventional power plants.
Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, which are described fully below under greenhouse gas impacts, would reduce TAC emissions by reducing VMT or encouraging use of alternative fuels, as explained below:

- Mitigation Measure GHG-4A Allocate Competitive Grant Funding to Projects that Reduce GHG Emissions. SANDAG would reduce VMT by adopting new or revised grant criteria to give greater weight to a project’s ability to directly reduce GHG emissions through, among other means, directly reducing VMT, for example, through parking strategies. Also, SANDAG would require locally adopted CAPs and complete streets policies, both of which typically reduce VMT, as prerequisites to be eligible for grant funding.
- Mitigation Measure GHG-4B Adopt a Detailed Regional Mobility Hub Implementation Plan to Reduce GHG Emissions. SANDAG would adopt a regional implementation plan for mobility hubs, which reduce vehicle trips and VMT through making it easier and more efficient to use transit, bicycles, and walking as alternatives to passenger vehicles.
- Mitigation Measure GHG-4C Fund Electric Vehicle Charging Infrastructure. SANDAG would provide funding for installation of a network of publicly available electric vehicle charging infrastructure that would reduce TAC emissions by extending the electric range of plug-in hybrid electric vehicles that would replace gasoline-powered internal combustion engines.
- Mitigation Measure GHG-4D Adopt a Plan for Transportation Fuels that Reduce GHG Emissions. SANDAG would adopt a plan for the deployment of alternative fuel infrastructure, which would contribute to TAC emissions reductions by contributing to increases in alternative fueled vehicles in the regional vehicle fleet that replace vehicles traditionally powered by gasoline and diesel.
- Mitigation Measure GHG-4E Assist in the Preparation of Climate Action Plans and Other Measures to Reduce GHG Emissions. SANDAG would provide financial and technical assistance to local governments in the preparation of CAPs, and other policies/measures to reduce GHG emissions, which typically include VMT reduction measures.
- Mitigation Measure GHG-4F Implement Measures to Reduce GHG Emissions from Transportation Projects. SANDAG would implement measures during construction and operation of transportation projects that reduce consumption of gasoline, diesel, and electricity, and as a result, reduce associated TAC emissions.
- Mitigation Measure GHG-4G Implement Measures to Reduce GHG Emissions from Transportation Projects. Transportation project sponsors other than SANDAG could implement measures during construction and operation of transportation projects that reduce consumption of gasoline, diesel, and electricity, and as a result, reduce associated TAC emissions.
- Mitigation Measure GHG-4H Implement Measures to Reduce GHG Emissions from Development Projects. The County of San Diego and cities can and should implement measures to reduce GHG emissions, including measures to reduce VMT such as:
  - Increasing transit use, carpooling, bike-share and car-share programs, and active transportation.
  - Parking strategies based on the SANDAG Regional Parking Management Toolbox.
  - Transportation Systems Management (TSM) measures.
  - Land use siting and design measures.
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B have been required in, or incorporated into, the Plan to reduce this significant impact of exposing sensitive receptors to substantial concentrations of TAC emissions that result in incremental increases in cancer risk relative to baseline (2012) conditions that exceed 10 chances in one million (0.001 percent) and total cancer risk above 100 chances in one million (0.01 percent). The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B would reduce significant impacts related to exposure of sensitive receptors to substantial concentrations of TAC emissions. However, it cannot be guaranteed that these measures would reduce exposure of sensitive receptors to substantial TAC concentrations for all projects. These mitigation measures would also reduce health impacts associated with exposure to TAC emissions. However, using available methodologies, it is not possible to provide meaningful or accurate quantification of the reductions in health impacts associated with reductions in TAC emissions in this regional analysis.

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the impact to a less than significant level, this impact (AQ-4) remains significant and unavoidable.

Cumulative Air Quality Impacts (EIR Section 5.2.3)

Significant Impacts

Because cumulative air quality impacts throughout the southern California and northern Baja California region would be significant in 2020, 2035, and 2050, and because the Plan’s incremental air quality impacts are significant in 2020, 2035, and 2050, the Plan’s incremental air quality impacts (AQ-2, AQ-3, and AQ-4) are cumulatively considerable in 2020, 2035, 2050.

Mitigation Measures

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B would reduce significant air quality impacts related to substantial contributions to existing violations of air quality standards for PM10 and PM2.5, cumulatively considerable net increases in particulate emissions, and exposure of sensitive receptors to substantial concentrations of TAC emissions, but not to less than significant levels.
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B have been required in, or incorporated into, the Plan to reduce the Plan’s significant air quality impacts. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, and GHG-4H, AQ-2A, AQ-4A, AQ-4B, and AQ-4C, and EN-3B would reduce the Plan’s significant cumulative air quality impacts. However, while these mitigation measures reduce the Plan’s significant air quality impacts, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to cumulatively significant air quality impacts to less than significant levels, these impacts (AQ-2, AQ-3, and AQ-4) remain cumulatively considerable post-mitigation.

D. BIOLOGICAL RESOURCES (EIR SECTION 4.4)

BIO-1 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS; or have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act or on resources regulated by CDFW under Section 1600 et seq. of the CFGC (2020, 2035, 2050)

Significant Impact

Forecasted regional growth and land use change and planned transportation network improvements would result in loss of the following amounts of riparian habitat, including regulated waters, and upland sensitive natural communities: about 920 acres of riparian habitat and wetlands and about 26,000 acres of upland sensitive natural communities from 2012 to 2020, about 1,900 acres of riparian habitat and wetlands and about 64,000 acres of upland sensitive natural communities from 2012 to 2035, and about 2,500 acres of riparian habitat and wetlands and about 79,000 acres of upland sensitive natural communities from 2012 to 2050 (EIR Tables 4.4-7, 4.4-8, and 4.4-9).

Mitigation Measures

Implementation of Mitigation Measures BIO-1A, BIO-1B, BIO-1C, and BIO-1D would reduce this significant impact, but not to a less than significant level.

BIO-1A Implement Design and Avoidance Measures for Vegetation and Regulated Waters. During planning, design, project-level CEQA review, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, avoid impacting sensitive natural communities and regulated waters, including wetlands, when feasible. Avoidance measures include, but are not limited to, the following:
• Confine development footprints to the minimal amount of area necessary for construction and safe, reliable operation. Limit access routes and staging areas to existing roadways, developed areas, or disturbed areas. Clearly delineate all construction areas, staging areas, and access routes in the final engineering plans.

• Limit grading and earth-moving activities to the permitted impact footprint. Install environmentally sensitive area fencing or flagging along the limits of disturbance prior to the start of construction to avoid incidental loss of sensitive habitat types.

**BIO-1B Provide Compensatory Mitigation.** Where impacts are unavoidable under Mitigation Measure BIO-1A, during planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation, as specified through consultation with resource agencies, and consistent with approved MSCP or MHCP documents, applicable federal and state regulatory requirements for mitigating impacts to regulated waters including wetlands and riparian habitat, or applicable local regulations protecting sensitive natural communities. SANDAG shall and other implementing agencies can and should establish appropriate mitigation ratios that would reduce impacts; depending on the location of the impact and the affected sensitive natural community, and meet the requirements of resource agencies and applicable adopted plans, ordinances, and policies. SANDAG shall and other implementing agencies can and should design compensatory mitigation to result in the establishment of self-sustaining sensitive natural communities, replacing the lost habitat and/or habitat value, as required to offset those lost to the impacts.

• Sensitive Natural Communities

  For impacts outside the Coastal Zone, provide compensatory mitigation either through the purchase of credits at an existing authorized mitigation bank or in lieu fee program, or through project-specific mitigation. Provide compensatory mitigation for impacts inside the Coastal Zone within the Coastal Zone as close as is feasible to the impact. Consistent with the resource agencies and applicable adopted plans, ordinances, and policies, provide project-specific mitigation for sensitive natural communities (see BIO-1B (b) for regulated waters, including wetlands,) through the following:

  o On-site restoration for temporary impacts;
  o On-site or off-site preservation of existing habitats through acquisition and/or restoration using EMP and other mitigation funds for permanent impacts. Protect mitigation lands 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. Meet off-site mitigation requirements using EMP and other mitigation funds. When mitigation is provided outside of an adopted NCCP/HCP plan area the following conditions apply:
    - Give priority to mitigation lands connected to existing conserved open space;
    - Consider contributing in the establishment of large blocks of habitat or lands that are otherwise critical for covered species and/or providing for biological core areas and habitat linkages consistent with current regional conservation planning goals; and
    - Mitigate impacts to critical habitat within the same Critical Habitat Unit where the impacts occurred.
  o Purchase of habitat credits at an approved mitigation bank, or through payment into an approved in-lieu mitigation fee program applicable to the impacts.
• Regulated Waters, including Wetlands.

Where impacts to jurisdictional waters are unavoidable under Mitigation Measure BIO-1A, SANDAG shall and other implementing agencies can and should mitigate such impacts. Construction within regulated waters, including wetlands, would be subject to prior authorization by USACE, RWQCB, and CDFW. In some areas where impacts are small, the levels of impact may be low enough to be covered by applicable Nationwide Permits.

Consistent with the resource agencies permitting and applicable adopted plans, ordinances, and policies, provide project-specific mitigation for impacts to regulated waters, including wetlands and riparian habitat, through one of the following:

o Purchase of credits at an existing authorized mitigation bank or in lieu fee program, except within the coastal zone. Provide compensatory mitigation for impacts inside the coastal zone at sites within the coastal zone close to the impact.

o Project-specific mitigation. Apply an appropriate mitigation ratio for jurisdictional wetlands to ensure no net loss of wetlands functions and values, account for temporal losses, and set in coordination with USACE and CDFW. When appropriate functions and values assessments are not available, use a minimum mitigation ratio of 1:1 based on area or linear feet.

**BIO-1C Prepare a Mitigation and Monitoring Plan.** During planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, as specified through consultation with resource agencies, and consistent with approved MSCP or MHCP documents, applicable federal and state regulatory requirements, prepare and implement a Habitat Management and Monitoring Plan for impacts to sensitive natural communities and a Mitigation and Monitoring Plan consistent with the requirements of USACE and CDFW for all impacts to regulated waters, including wetlands. These plans shall include the following:

• Details regarding the location of the site, site appropriateness, preparation (e.g., grading), recontouring, planting specifications (including seed mixes and plant palettes), irrigation design (if determined necessary), and measures to control exotic vegetation.

• Impacts to other sensitive vegetation communities that may occur as the result of implementing this measure including direct loss and indirect effects related to changes in hydrology and species composition.

• Identification of locally appropriate plant species for the plan, and outline of performance standards and remedial measures if the mitigation efforts fall short of the performance standards. 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.

• Maintenance and monitoring procedures (including monitoring period and reporting). Maintain and monitor restoration or creation locations for a minimum of 5 years, but continue maintenance and monitoring until required performance standards are achieved. Establish performance standards sufficient to create self-sustaining habitat providing the functions and values required to offset those lost to the impacts and meet the requirements of applicable agency and adopted plans, ordinances, and policies. After final performance standards have been met and any relevant permitting agencies have approved the mitigation project as complete, conserve mitigation areas permanently (e.g., through a conservation easement) and provide for management in perpetuity.

• The aforementioned requirements shall reflect the latest available information on climate change impacts and adaptation measures.
**BIO-1D Implement Best Management Practices to Avoid Indirect Impacts.** During planning, design, project-level CEQA review, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, include implementation of location-specific measures to avoid and minimize construction-generated dust, erosion, runoff, sedimentation, and exotic plant invasion, within or into sensitive natural habitats and jurisdictional waters. Location-specific measures include, but are not limited to, the following:

- **Prepare a Storm Water Pollution Prevention Plan (SWPPP) to comply with RWQCB requirements.** In the SWPPP, identify the design features and best management practices (BMPs) that would be used to effectively manage drainage-related issues (e.g., erosion and sedimentation) during construction. Examples of BMPs 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.
- **Place construction materials, staging, storage, dispensing, fueling, and maintenance activities in upland areas outside of sensitive habitat, and take adequate measures to prevent any runoff from entering regulated waters, including wetlands.**
- **Fuel equipment on existing paved roads. Check contractor equipment for leaks prior to operation and repaired as necessary.**
- **Monitor construction activities using a qualified biologist when construction is occurring in, or adjacent to, sensitive habitat and grant the biologist the authority to stop work if it deviates from approved plans and mitigation measures. Ensure that the qualified biologist has relevant expertise for the affected resources.**
- **No planting or seeding of invasive plant species on the most recent version of the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory.**

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures BIO-1A, BIO-1B, BIO-1C, and BIO-1D have been required in, or incorporated into, the Plan to reduce this significant impact of substantial adverse effects to riparian habitat, wetlands, and uplands. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures BIO-1A, BIO-1B, BIO-1C, and BIO-1D would reduce significant impacts related to substantial adverse effects to riparian habitat, wetlands, and uplands. However, there is no assurance that these mitigation measures would be implemented or would be equally effective for all projects due to the wide variety of circumstances, complexity of some sites, and impacts to them. Instances may occur in which impacts are not reduced to less than significant.

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (BIO-1) remains significant and unavoidable.
**BIO-2 Have a substantial adverse effect, either directly or indirectly, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, or species that meet the criteria for endangered, rare, or threatened in CEQA Guidelines Section 15380 (2020, 2035, 2050)**

**Significant Impact**

By 2020, 2035 and 2050, forecasted regional growth and land use change and planned transportation network improvements would result in direct and indirect substantial adverse effects to wildlife and plants identified as candidate, sensitive, or special status species (EIR Tables 4.4-10, 4.4-11, and 4.4-12).

**Mitigation Measures**

Implementation of Mitigation Measures BIO-1A, BIO-1B, BIO-1C, BIO-1D BIO-2A, BIO-2B, and BIO-2C would reduce this significant impact, but not to a less than significant level.

**BIO-2A Implement Design and Avoidance Measures for Special Status Species.** During planning, design, project-level CEQA review, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, incorporate measures to avoid and minimize impacts to special status species.

- **Construction:** Construction measures include, but are not limited to, the following:
  - Implement noise attenuation measures (e.g., temporary noise barriers) if qualified biologists determine construction noise levels are disturbing special status wildlife species.
  - Backfill all wildlife pitfalls (trenches, bores, and other excavations) at the end of each work day. If backfilling is not feasible, slope all trenches, bores, and other excavations at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access.
  - Delineate permitted work areas, including staging areas, equipment access, and placement of soils, with fencing or stakes prior to construction to prevent access to areas occupied by special status species.
  - Require monitoring of construction activities by qualified biologists when construction is occurring in, or adjacent to, areas suitable for, or occupied by special status species, with authority to stop work if it deviates from approved plans and mitigation measures.
  - Avoid nighttime construction. When activities must occur at night, direct lighting (e.g., staging areas, equipment storage sites, roadway) downward and away from sensitive vegetation communities. Use light glare shields to reduce the extent of illumination into adjoining areas.
  - Remove spoils, trash, or any debris to an off-site, approved disposal facility. Contain trash and food items in closed containers and remove daily to reduce the attractiveness to opportunistic predators such as coyotes and feral dogs and cats that may prey on sensitive species. Prohibit workers from bringing pets and firearms to the site.

- **Clear vegetation outside of the typical breeding season of special status wildlife species as determined by the wildlife agencies or qualified biologist.** If activities must occur during special status species breeding season timeframes, conduct a pre-construction survey by a qualified biologist to determine whether the species of concern, including birds protected under the MBTA, are present within the proposed work area or appropriate buffer (buffer distance may vary depending on the type of activity and the species and other site conditions). If the species of concern are found on-site, implement measures and construction monitoring to avoid impacts as determined by the wildlife agency(ies) and/or the qualified biologist.
Operation and maintenance: Operation and maintenance measures include, but are not limited to, the following:
- If permanent lighting is necessary, use motion sensitive lighting rather than steady burning, and direct downward and away from natural vegetation communities. Use light glare shields to reduce the extent of illumination into adjoining areas.
- In the event that vegetation clearing or other vegetation maintenance is required, schedule vegetation clearing outside special status wildlife species breeding seasons as specified above in BIO-2A, a, vii.
- Implement operational noise reduction measures described in Section 4.12.4 (see mitigation measure N-1A).

BIO-2B Provide Compensatory Mitigation for Special Status Plant Species. Where impacts are unavoidable, during planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation for impacts to special status plant species as specified through consultation with resource agencies, and consistent with approved MSCP or MHCP documents, federal and state regulatory requirements, or local regulations.

- Federally and/or State Listed Plant Species
  If an individual project would result in “take” of a federally and/or state plant species, consult with wildlife agencies and/or require the applicant to obtain appropriate take authorizations (e.g., Section 2081 Incidental Take Permit, NCCP, Section 7, Section 10 HCP) prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations. Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, that are also consistent with the requirements of resource agencies and applicable adopted plans, ordinances, and policies that include the appropriate habitat, area, and species in compensation lands. If appropriate, require the applicant to acquire suitable mitigation habitat as part of the SANDAG environmental mitigation program or use a mitigation bank to compensate for impacts. Prepare a species and habitat compensation plan to 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. Include in the compensation plan success criteria for reestablishing the affected species and habitat, and remedial measures that must be implemented if the project is not meeting specified performance criteria. Include a monitoring program designed to maintain the resources on lands used as mitigation. Design the monitoring program to evaluate the current and probable future health of the resources, and their ability to sustain populations following the completion of the program. Design remedial measures appropriate for the species and habitat. Appropriate remedial measures include but are not limited to exotic species management, access control, replanting and reseeding of appropriate habitat elements, and propagation and seed bulking programs.

- Non-federally and/or Non-state Listed Special Status Plant Species
  If an individual project would result in “take” of a non-federally and/or non-state listed special status plant species, require the applicant to obtain all appropriate authorizations (e.g., CDFW or USFWS concurrence, NCCP, HCP) prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations. Mitigate loss of habitat using mitigation banks or through project-specific mitigation. Mitigate habitat impacts through preservation, restoration, or creation of self-sustaining suitable habitat. Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, to meet the requirements of resource agencies and applicable adopted plans, ordinances, and policies.
**BIO-2C Provide Compensatory Mitigation for Special Status Wildlife Species.** Where impacts are unavoidable, during planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation for impacts to special status wildlife species as specified through consultation with resource agencies, and in approved MSCP or MHCP documents, federal and state regulatory requirements, or local regulations.

- **Federally and/or State Listed Wildlife Species**

  If an individual project would result in “take” of a federally and/or state wildlife species, consult with wildlife agencies and/or require the project applicant to obtain appropriate take authorizations (e.g., Section 2081 Incidental Take Permit, Section 7, NCCP, HCP) prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations. Mitigate loss of habitat using mitigation banks or through project-specific mitigation. Mitigate habitat impacts through preservation, restoration, or creation of self-sustaining suitable habitat. Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, that are also consistent with the requirements of resource agencies and applicable adopted plans, ordinances, and policies.

- **Non-federally and/or Non-state Listed Special Status Wildlife Species**

  If an individual project would result in “take” of a non-federally and/or non-state listed special status wildlife species, require project applicants to obtain all appropriate authorizations (e.g., resource agency concurrence, NCCP, HCP) prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations. Mitigate loss of habitat using mitigation banks or through project-specific mitigation. Mitigate habitat impacts through preservation, restoration, or creation of self-sustaining suitable habitat. Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, that are also consistent with the requirements of resource agencies and applicable adopted plans, ordinances, and policies.

**Mitigation Measures BIO-1A through BIO-1D** are also applicable to, and avoid, minimize, and mitigate impacts to sensitive vegetation communities that provide habitat for special status species.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures BIO-1A, BIO-1B, BIO-1C, BIO-1,D BIO-2A, BIO-2B, and BIO-2C have been required in, or incorporated into, the Plan to reduce this significant impact of direct and indirect substantial adverse effects to wildlife and plants identified as candidate, sensitive, or special status species. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures BIO-1A, BIO-1B, BIO-1C, BIO-1,D BIO-2A, BIO-2B, and BIO-2C would reduce significant impacts related to direct and indirect substantial adverse effects to wildlife and plants identified as candidate, sensitive, or special status species. However, there is no assurance that these mitigation measures would be implemented or would be equally effective for all projects due to the wide variety of circumstances, complexity of some sites, and impacts to them. Instances may occur in which impacts are not reduced to less than significant levels.
The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (BIO-2) remains significant and unavoidable.

**BIO-3 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (2020, 2035, 2050)**

**Significant Impact**

By 2020, 2035 and 2050, forecasted regional growth and land use change and planned transportation network improvements would decrease the permeability of existing wildlife movement corridors, thus interfering with the movement of native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impeding the use of native wildlife nursery sites.

**Mitigation Measure**

Implementation of Mitigation Measure BIO-3A would reduce this significant impact, but not to a less than significant level.

**BIO-3A Facilitate Wildlife Movement.** During planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement project designs that provide for continued movement of wildlife by limiting edge effects and assisting wildlife navigation through or across barriers in areas where wildlife corridors and nursery sites are identified in this EIR, adopted HCP/NCCPs, or movement studies that identify evidence of wildlife movement. Design measures include, but are not limited to, the following:

1. Allow corridor buffer zones and wide movement corridors to remain or incorporate periodic larger habitat patches along a corridor’s length;
2. Use only native species for landscaping within at least 200 feet of identified wildlife corridors;
3. Incorporate shielded and directed lighting in areas near corridors;
4. Install physical barriers (e.g., fencing) that prevent human and/or domestic predator entry into the corridor and, if appropriate, limit the amount of noise and lighting that enters the corridor;
5. Minimize the number of road crossings through identified wildlife corridors;
6. Use features such as open span bridges instead of closed culverts to allow for wildlife movement;
7. If bridges are infeasible, incorporate undercrossings and/or other crossing structures that allow continued movement of wildlife where transportation facilities create barriers to wildlife movement and use of nursery sites. Evaluate size-class-specific crossing structures and movement enhancement feature (e.g. habitat refugia within structure, soft bottom undercrossings, etc.), for each species to ensure that crossings are functional for movement. Additionally, within aquatic habitat impacting fish corridors for species such as southern steelhead, create passable aquatic barriers for migratory fish species in order to have the functional effect of fish access to spawning and rearing habitats;
8. Maintain undercrossings and/or other crossing structures as needed to ensure wildlife movement. Prepare a fencing and wildlife crossing structure maintenance plan for projects with edge effects to maintain permeability for wildlife across corridors;

9. Install directional fencing, where appropriate, to reduce vehicle mortality and guide wildlife to proposed bridges, undercrossings, and/or other crossing structures. Where fencing stops, extend the fence and angle it away from the roadways to deter wildlife from being funneled to roadways. Because it is not possible to install a continuous fence, use one-way gates so animals that do get around fence end runs can safely exit roadways;

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measure BIO-3A have been incorporated into the Plan to reduce this significant impact of decreasing the permeability of existing wildlife corridors. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measure BIO-3A would reduce significant impacts related to decreasing the permeability of existing wildlife corridors. However, there is no assurance that these mitigation measures would be implemented for all projects or equally effective due to the wide variety of circumstances, complexity of some sites, and impacts to them. Instances may occur in which impacts are not reduced to less than significant levels.

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (BIO-3) remains significant and unavoidable.

Cumulative Biological Resources Impacts (EIR Section 5.2.4)

Significant Impacts

Because cumulative biological resources impacts throughout the southern California and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental biological resources impacts are significant in 2020, 2035, and 2050, the Plan’s incremental biological resources impacts (BIO-1, BIO-2, and BIO-3) are cumulatively considerable in 2020, 2035, and 2050.

Mitigation Measures

Implementation of Mitigation Measures BIO-1A, BIO-1B, BIO-1C, BIO-1D, BIO-2A, BIO-2B, BIO-2C, and BIO-3A would reduce the Plan’s significant biological resources impacts related to riparian habitats, wetlands, and uplands, direct and indirect substantial adverse effects to wildlife and plants identified as candidate, sensitive, or special status species, and decreases in wildlife corridor permeability, but not to less than significant levels.
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures BIO-1A, BIO-1B, BIO-1C, BIO-1D, BIO-2A, BIO-2B, BIO-2C, and BIO-3A have been required in, or incorporated into, the Plan to reduce the Plan’s significant biological resources impacts. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures BIO-1A, BIO-1B, BIO-1C, BIO-1D, BIO-2A, BIO-2B, BIO-2C, and BIO-3A would reduce the Plan’s significant biological resources impacts. However, while these mitigation measures reduce the Plan’s significant biological resources impacts, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to cumulatively significant biological resources impacts to less than significant levels, these impacts (BIO-1, BIO-2, and BIO-3) remain cumulatively considerable post-mitigation.

E. CULTURAL AND PALEONTOLOGICAL RESOURCES (EIR SECTION 4.5)

**CULT-1 Cause a substantial adverse change in the significance of a historical resource or unique archaeological resource (2020, 2035, 2050)**

**Significant Impact**

By 2020, 2035, and 2050, forecasted regional growth and land use change and planned transportation network improvements would cause a substantial adverse change in the significance of historical resources and unique archaeological resource.

**Mitigation Measures**

Implementation of Mitigation Measures CULT-1A and CULT-1B would reduce this significant impact, but not to a less than significant level.

**CULT–1A Develop Project-level Measures.** During project-level CEQA review of transportation network improvements or development projects that would cause a substantial adverse change in the significance of a CEQA-defined “historical resource” or significantly affect a unique archeological resource, SANDAG shall, and transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, develop project-level protocols and mitigation measures, consistent with CEQA Guidelines Section 15126.4(b) and in consultation with the State Historic Preservation Officer (SHPO) as needed, to avoid or reduce impacts to CEQA-defined historical resources and unique archaeological resources. Allow for adequate resources to identify (through survey, consultation, or other means) cultural resources in order to develop minimization and avoidance methods where possible. Consult with appropriate Native American representatives to provide necessary input as to resources that are of concern. These may include natural areas that contain resources of importance to tribes that are located outside of reservations. Project-level mitigation measures include, but are not limited to, the following:
Unique Archaeological Resources

• Where feasible, avoid impacts to unique archaeological resources by preservation in place by:
  ▪ Avoiding archaeological sites.
  ▪ Deeding archaeological sites into permanent conservation easements.
  ▪ Capping or covering archaeological sites with a layer of soil before building on the sites.

• If preservation in place is not feasible, reduce impacts on archaeological sites by completion of a data recovery program conducted in compliance with CEQA Guidelines Section 15126.4(b) and other transportation project sponsor guidelines. 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.

Historic Resources

• Conduct maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, relocation, or reconstruction to reduce impacts on historic resources, and have a qualified architectural historian or historic architect review mitigation plans to review consistency with the Secretary of the Interior’s Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings; and

• If avoidance of a built historic resource is not feasible, apply additional mitigation options including, but not limited to, specific design plans for historic districts, or plans for alteration or adaptive reuse of a historical resource that follows the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring, and Reconstructing Historic Buildings.

• If demolition of a historical resource must occur, apply mitigation options such as recordation including a building description, historical narrative, and photographic documentation of the building and appropriate as-built drawings similar to the Historic American Building Survey documentation outlined by the National Park Service (National Park Service 2015).

CULT–1B Implement Monitoring and Data Recovery Programs. During project-level CEQA review and during construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement monitoring and data recovery measures to reduce impacts on both known and undiscovered CEQA-defined historical resources and unique archaeological resources, including but not limited to the following:

• Require areas identified in any required monitoring and mitigation plan to be monitored during the grading phase of individual projects by a qualified archaeologist and tribal monitor if needed.

• Should an archaeological deposit and/or feature be encountered during construction activities that is determined to be a historic resource or unique by a qualified archaeologist, stop ground-disturbing activities and prepare and/or implement an Archaeological Data Recovery Program (ADRP) in consultation with SHPO.

• Integrate curation of archaeological and/or historical artifacts and associated records in a regional center focused on the care, management, and use of archaeological collections if the artifact must be excavated. This does not include Native American human remains and associated burial items, the disposition of which should be determined in consultation with the MLDs (see Impact CULT-2).
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures CULT-1A and CULT-1B have been required in, or incorporated into, the Plan to reduce this significant impact of causing a substantial adverse change in the significance of a historical resource or unique archaeological resource. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures CULT-1A and CULT-1B would reduce significant impacts related to causing a substantial adverse change in the significance of a historical resource or unique archaeological resource. However, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (CULT-1) remains significant and unavoidable.

**PALEO-1 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (2020, 2035, 2050)**

Significant Impact

By 2020, 2035, and 2050, forecasted regional growth and land use change and planned transportation network improvements would directly or indirectly destroy unique paleontological resources or sites and unique geologic features.

Mitigation Measures

Implementation of Mitigation Measures PALEO-1A and PALEO-1B would reduce this significant impact, but not to a less than significant level.

**PALEO-1A Identify Potential for Unique Paleontological Resources or Unique Geologic Features.** During planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, assess the potential for disturbing unique paleontological resources or affecting unique geological features in the project area. For project sites with a high probability of these resources being present, retain a qualified paleontologist to conduct a field survey and recommend subsequent steps to be taken during project construction to reduce or avoid impacts to these resources as described in PALEO-1B in the report documenting the field survey.

**PALEO-1B Avoid or Reduce Impacts to Unique Paleontological Resources or Unique Geologic Features.** If it is determined during planning, design, and project-level CEQA review that transportation network improvements or development projects would be located within an area that likely contains unique paleontological resources or unique geologic features (based on results of the work done in Paleo-1A), SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, avoid or reduce impacts to these resources when feasible. If impacts cannot be avoided, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, retain a qualified paleontologist prior to construction to:
• Prepare a paleontological monitoring and mitigation plan, which will outline where monitoring should occur and procedures for discoveries, consistent with applicable regulations and guidelines;
• Establish procedures for monitoring and the possible pre-construction salvage of exposed resources if fossil-bearing rocks or unique geologic features have the potential to be affected;
• Provide pre-construction coordination with contractors;
• Be on-site to observe during grading operations and 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, recover scientifically valuable specimens or ensure avoidance of the unique paleontological resource or unique geologic feature, and oversee fossil salvage operations and reporting.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures PALEO-1A and PALEO-1B have been required in, or incorporated into, the Plan to reduce this significant impact of directly or indirectly destroying a unique paleontological resource or site or unique geologic feature. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures PALEO-1A and PALEO-1B would reduce significant impacts related to directly or indirectly destroying a unique paleontological resource or site or unique geologic feature. However, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (PALEO-1) remains significant and unavoidable.

Cumulative Cultural and Paleontological Resources Impacts (EIR Section 5.2.5)

Significant Impacts

Because cumulative cultural and paleontological resources impacts throughout the southern California and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental cultural and paleontological resources impacts are significant in 2020, 2035, and 2050, the Plan’s incremental cultural and paleontological resources impacts (CULT-1 and PALEO-1) are cumulatively considerable in 2020, 2035, and 2050.

Mitigation Measures

Implementation of Mitigation Measures CULT-1A, CULT-1B, PALEO-1A and PALEO-1B would reduce significant cultural and paleontological resources impacts related to causing a substantial adverse change in the significance of a historical resource or unique archaeological resource and directly or indirectly destroying a unique paleontological resource or site or unique geologic feature, but not to less than significant levels.
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures CULT-1A, CULT-1B, PALEO-1A and PALEO-1B have been required in, or incorporated into, the Plan to reduce the Plan’s significant cultural and paleontological resources impacts. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures CULT-1A, CULT-1B, PALEO-1A and PALEO-1B would reduce the Plan’s significant cumulative cultural and paleontological resources impacts. However, while these mitigation measures reduce the Plan’s significant cultural and paleontological resources impacts, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to cumulatively significant cultural and paleontological resources impacts to less than significant levels, these impacts (CULT-1 and PALEO-1) remain cumulatively considerable post-mitigation.

F. ENERGY (EIR SECTION 4.6)

EN-3 Require or result in the construction of new energy facilities or the expansion of such facilities to adequately meet projected demands, the construction of which could cause a significant environmental effect (2020, 2035, 2050)

Significant impact

By 2020, 2035, and 2050, forecasted regional growth and land use change and planned transportation network improvements and programs would result in the construction of new and expanded energy facilities, the construction of which could cause significant environmental effects, because total electricity, natural gas, and diesel consumption would increase.

Mitigation Measures

Implementation of Mitigation Measures EN-3A and EN-3B would reduce this significant impact, but not to a less than significant level.

EN-3A Mitigate Impacts of New or Expanded Energy Facilities. During the planning, design, and project-level CEQA review process, San Diego region energy providers, the County of San Diego, cities, and other local jurisdictions 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 construction or expansion activities.
Such conditions should include those necessary to avoid or reduce environmental impacts associated with, but not limited to, air quality, noise, traffic, biological resources, cultural resources, GHG emissions, hydrology and water quality, and others that apply to specific construction or expansion of natural gas and electric facilities projects.

**EN-3B Develop Energy Demand Calculations and Reduce Energy Demand.** During the planning, design, and project-level CEQA review process for individual development projects, San Diego region energy providers, the County of San Diego, cities, and other local jurisdictions can and should develop electricity and natural gas demand calculations for any project anticipated to require substantial energy consumption. Projects should implement design and mitigation measures that reduce energy consumption and promote the use of on-site renewable energy.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures EN-3A and EN-3B have been required in, or incorporated into, the Plan to reduce this significant impact of new and expanded energy facilities, the construction of which could cause significant environmental effects. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures EN-3A and EN-3B would reduce significant impacts related to new and expanded energy facilities, the construction of which could cause significant environmental effects. However, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (EN-3) remains significant and unavoidable.

**Cumulative Energy Impacts (EIR Section 5.2.6)**

**Significant Impact**

Because cumulative energy impacts throughout the southern California and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental energy impacts are significant in 2020, 2035, and 2050, the Plan’s incremental energy impacts (EN-3) are cumulatively considerable in 2020, 2035, and 2050.

**Mitigation Measures**

Implementation of Mitigation Measures EN-3A and EN-3B would reduce the significant energy impact related to new and expanded energy facilities, the construction of which could cause significant environmental effects, but not to a less than significant level.
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures EN-3A and EN-3B have been required in, or incorporated into, the Plan to reduce the Plan’s significant energy impact. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures EN-3A and EN-3B would reduce the Plan’s significant energy impact. However, while these mitigation measures reduce the Plan’s significant energy impact, it cannot be guaranteed that all future project-level cumulative impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to a cumulatively significant energy impact to a less than significant level, this impact (EN-3) remains cumulatively considerable post-mitigation.

G. GEOLOGY, SOILS, AND MINERAL RESOURCES (EIR SECTION 4.7)

MR-1 Result in the loss of availability of known aggregate and mineral resources that would be of value to the region and the residents of the state, or result in the loss of availability of a locally-important mineral resource recovery site delineated in a local general plan, specific plan, or other land use plan (2020, 2035, 2050)

Significant Impact

By 2020, 2035 and 2050, forecasted regional growth and land use change and planned transportation network improvements would result in the loss of availability of known aggregate or other mineral resources, as well as the loss of availability of locally-important mineral resource recovery sites, including over 2,000 acres of MRZ-2 lands from 2012 to 2020, nearly 4,300 acres of MRZ-2 lands from 2012 to 2035, and nearly 6,200 acres of MRZ-2 lands from 2012 to 2050.

Mitigation Measure

Implementation of Mitigation Measure MR-1A would reduce this significant impact, but not to a less than significant level.

MR-1A Conserve Aggregate and Mineral Resources. During planning, design, and project-level CEQA review of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, avoid loss of known aggregate and mineral resources or locally important mineral resource recovery sites. Where avoidance is infeasible, SANDAG shall, and other transportation project sponsors can and should, minimize impacts to the availability of known resources and recovery sites through measures that include, but are not limited to, the following:
• Designing transportation network improvements in a manner (such as buffer zones or the use of screening) that does not preclude adjacent or nearby extraction of known mineral and aggregate resources following completion of the improvement and during long-term operations.

In addition, during planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should avoid or reduce impacts on known aggregate and mineral resources and mineral resource recovery sites through the evaluation and selection of project sites and design features (e.g., buffers) that minimize impacts on land suitable for aggregate and mineral resource extraction by maintaining portions of MRZ-2 areas in open space or other general plan land use categories and zoning that allow for mining of mineral resources.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measure MR-1A have been required in, or incorporated into, the Plan to reduce this significant impact of loss of availability of known aggregate or other mineral resources, as well as the loss of availability of locally-important mineral resource recovery sites. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measure MR-1A would reduce significant impacts related to loss of availability of known aggregate or other mineral resources, as well as the loss of availability of locally-important mineral resource recovery sites. However, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (MR-1) remains significant and unavoidable.

Cumulative Geology, Soils and Mineral Resources Impacts (EIR Section 5.2.7)

Significant Impact

Because cumulative mineral resources impacts throughout the southern California and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental mineral resources impacts are significant in 2020, 2035, and 2050, the Plan’s incremental mineral resources impacts (MR-1) are cumulatively considerable in 2020, 2035, and 2050.

Mitigation Measure

Implementation of Mitigation Measure MR-1A would reduce the significant mineral resources impact related to loss of availability of known aggregate or other mineral resources, as well as the loss of availability of locally-important mineral resource recovery sites, but not to a less than significant level.
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measure MR-1A have been required in, or incorporated into, the Plan to reduce the significant cumulative mineral resources impact. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measure MR-1A would reduce the Plan’s significant mineral resources impact. However, while these mitigation measures reduce the Plan’s significant mineral resources impact, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to a cumulatively significant mineral resources impact to a less than significant level, this impact (MR-1) remains cumulatively considerable post-mitigation.

H. GREENHOUSE GAS EMISSIONS (EIR SECTION 4.8)

GHG-4 Be inconsistent with the State’s ability to achieve the Executive Order B-30-15 and S-3-05 goals of reducing California’s GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050 (2035 and 2050)

Significant Impact

Because total GHG emissions in the San Diego region of 25.5 MMT CO2e in 2035 would exceed the regional 2035 GHG reduction reference point of 14.5 MMT CO2e (which is based on EO-B-30-15 and EO-S-3-05), and total emissions in the San Diego region of 25.9 MMT CO2e in 2050 would exceed the regional 2050 GHG reduction reference point of 5.8 MMT CO2e (which is based on EO-S-3-05), the Plan’s 2035 and 2050 GHG emissions would be inconsistent with the state’s ability to achieve the Executive Orders’ GHG reduction goals.

Mitigation Measures

Overview. Many features currently included in the Plan have the effect of reducing GHG emissions that might otherwise occur. Mitigation measures presented in this section are additional feasible GHG reduction measures not included in the Plan that SANDAG would or other agencies could implement. Other potential mitigation measures to reduce GHG emissions are included as components of the project alternatives in Chapter 6.0, rather than as individual mitigation measures in this section. These include still more compact land use patterns, accelerated and increased transit investments, reduced or no highway investments, and policies to reduce transit fares, increase parking prices, and establish road user fees.

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, GHG-4H, AQ-4A, AQ-4B, AQ-4C, EN-3B, and WS-1A would reduce this significant impact, but not to a less than significant level.
Quantification of Effectiveness of SANDAG GHG Mitigation Measures (GHG-4A through GHG-4E)

Mitigation Measure GHG-4A. It is not possible to precisely quantify the effectiveness of mitigation measure GHG-4A because SANDAG does not know the specific details of grant applications that local jurisdictions will submit in future funding cycles. However, this measure would result in GHG reductions because it requires that jurisdictions have locally adopted climate action plans in order to be eligible for grant funding. Currently, there are seven adopted climate action plans and two additional publicly available draft climate action plans in the San Diego region with GHG reduction targets that generally require GHG emissions to be reduced to 1990 levels by 2020 (also expressed as 15 percent below 2005 levels) and continued reductions after 2020.

Mitigation Measure GHG-4B. Implementation of mitigation measure GHG-4B would reduce GHG emissions because the implementation of mobility hubs would promote increased trips by walking, biking, transit, and carpooling, which reduce VMT, and in turn reduce GHG emissions. For example, research shows that increasing access to transit can reduce VMT anywhere from 0.5 to 24.5 percent (ARB 2013).

Mitigation Measure GHG-4C. Mitigation measure GHG-4C would fund an expanded electric vehicle charging network that will reduce on-road GHG emissions by an estimated 390,000 lbs CO2 (177 metric tons) by 2035 and 455,000 lbs CO2 (206 metric tons) by 2050 through the extended range of plug-in hybrid electric vehicles (Regional Plan Appendix C).

Mitigation Measure GHG-4D. Implementation of mitigation measure GHG-4D will provide a regional plan and associated resources to expand the use of alternative transportation fuels (compressed natural gas, propane, hydrogen, biofuels, and electricity) in the San Diego region. While the precise GHG reductions associated with GHG-4D cannot be quantified because SANDAG does not know the timing and future penetration rates of alternative fuels, the readiness plan and resources will build upon the efforts to date of the San Diego Regional Clean Cities Coalition. The Coalition estimates that GHG reductions from the use of alternative fuels (excluding electricity) by fleets in the San Diego region amounted to 20,051 MTCO2 in 2013 (DOE 2013).

Mitigation Measure GHG-4E. Implementation of mitigation measure GHG-4E would increase the GHG reduction benefits from the development and implementation of local climate action plans, as described for GHG-4A, and would continue to advance GHG reductions achieved from the SANDAG Energy Roadmap Program. The Energy Roadmap Program has assisted cities in obtaining funding for climate action plan related activities including GHG emissions inventory quantification, climate action plan development, and climate action plan implementation. The Energy Roadmap Program also provides funding and energy planning assistance to local governments to implement projects that save energy and reduce energy-related GHG emissions. To date, San Diego Gas & Electric estimates that SANDAG’s Energy Roadmap Program has resulted in up to about 3.4 million kWh of annual energy savings and about 1,200 MTCO2e of annual GHG reduction across 13 local cities (SDG&E 2015).

Mitigation Measure Text

GHG-4A Allocate Competitive Grant Funding to Projects that Reduce GHG Emissions (SANDAG)

SANDAG shall revise the TransNet Smart Growth Incentive and Active Transportation Grant Programs in the following ways to achieve GHG reductions:
• Adopt new or revised grant criteria to give greater weight to a project’s ability to directly reduce GHG emissions. Criteria include, but are not limited to, awarding points to projects that directly implement local climate action plans that reduce GHG emissions, or that directly implement parking strategies that reduce GHG emissions. The locally adopted CAPs shall include measures to reduce GHG emissions to 1990 levels by 2020, and achieve further reductions beyond 2020 consistent with adopted regional or local GHG reduction targets.

• Require locally adopted CAPs and complete streets policies as prerequisites to be eligible for grant funding.

• If a local jurisdiction does not have an adopted CAP or complete streets policy, SANDAG shall make available competitive funding through the grant programs for preparation of a CAP and/or complete streets policy.

• In addition to grant funding, SANDAG shall provide technical assistance to local jurisdictions for the preparation of CAPs as described in GHG-4E.

• These changes shall be adopted and effective for the fourth cycle of funding for both programs, which is expected to be released in December 2016.

 GHG-4B  Adopt a Detailed Regional Mobility Hub Implementation Plan to Reduce GHG Emissions (SANDAG)

Mobility hubs are places of connectivity, where different modes of transportation—walking, biking, ridesharing, and transit—come together to connect people to their jobs, school, shopping, errands, recreation, and back home; they reduce GHG emissions through reducing VMT and increasing transit use and alternative transportation. To implement the general “Regional Mobility Hub Implementation Strategy” listed as a proposed Plan near-term action, once this general strategy is developed, SANDAG shall develop and adopt a detailed Regional Mobility Hub implementation Plan no later than 2017 that includes:

1. Identification of mobility hub features and infrastructure requirements
2. Selection of 20 mobility hub locations that align with the smart growth place types identified in the Smart Growth Concept Map. Three mobility hubs will be implemented by 2020, and 17 more will be implemented by 2035.
3. Establishment of first mile/last mile transportation networks for each candidate mobility hub site based on travel patterns, access catchment areas, and adjacent land uses
4. Development of design guidelines for each candidate mobility hub site
5. Recommendation of specific mobility hub improvements and preparation of conceptual designs and capital cost estimates for each candidate mobility hub site
6. Site-specific implementation strategies

 GHG-4C  Fund Electric Vehicle Charging Infrastructure (SANDAG)

To implement the Plan action calling for building a network of electric vehicle chargers to promote the use of electric vehicles, SANDAG shall set aside approximately $30 million of Congestion Management and Air Quality (CMAQ) Improvement Program funds expected between 2020 and 2050 (approximately $1 million annually) to fund the installation of publicly available electric vehicle charging infrastructure. Increasing the number of publicly available electric vehicle charging points would reduce GHG emissions by extending the electric range of plug-in hybrid electric vehicles that would replace gasoline-powered internal combustion engines.
The funding that would be provided is an incentive for installation of Level 1 and Level 2 electric vehicle chargers in publicly accessible locations throughout the region. Level 1 charging (similar to a standard wall outlet) adds about 2 to 5 miles of range to an electric vehicle per hour of charging time while Level 2 (240 V circuit) adds about 10 to 20 miles of range per hour of charging time. A detailed program will be developed and presented to the SANDAG Board of Directors before the adoption of the next Plan update with funding becoming available by 2020. Available funding will be leveraged to install up to 36,000 EV chargers by 2035 and an additional 44,000 chargers by 2050.

**GHG-4D Adopt a Plan for Transportation Fuels that Reduce GHG Emissions (SANDAG)**

SANDAG shall adopt a regional readiness plan for the deployment of infrastructure for all alternative fuels by 2016. The plan will identify barriers to developing alternative fuel infrastructure, and include recommendations and resources for stakeholders to overcome these barriers. The plan will build on the regional readiness plan for plug-in electric vehicles accepted by the Board in 2014. This plan will contribute to reductions in GHGs through developing recommendations for facilitating access to alternative fuels, which will reduce emissions from vehicles.

Also, SANDAG has received a notice of proposed award from CEC for additional funding to implement the PEV Readiness Plan over 2 years. SANDAG shall provide technical assistance to local government staff, contractors, and property managers on permitting, inspection, and installation for EV charging and general PEV awareness activities. This funding is included in the Fiscal Year 16 budget.

**GHG-4E Assist in the Preparation of Climate Action Plans and Other Measures to Reduce GHG Emissions (SANDAG)**

SANDAG shall assist local governments in the preparation of CAPs, and other policies/measures to reduce GHG emissions. SANDAG shall assist local governments in identifying all feasible measures to reduce GHG emission to 1990 levels by 2020, and achieve further reductions beyond 2020 consistent with adopted regional or local GHG reduction targets. Specific forms of SANDAG assistance include, but are not limited to:

- Assisting its member agencies in obtaining funding for, directly funding, updating and implementing CAPs and other climate strategies through continued implementation of the SANDAG Energy Roadmap Program.
- Providing funding and energy planning assistance to local governments to implement projects that save energy and reduce energy-related GHG emissions.
- As described in GHG-4A, for local jurisdictions that do not have an adopted CAP, SANDAG shall make available competitive funding through the grant programs for preparation of a CAP.

**GHG-4F Implement Measures to Reduce GHG Emissions from Transportation Projects (SANDAG)**

During the planning, design, project-level CEQA review, construction, and operation of transportation network improvements, SANDAG shall implement measures to reduce GHG emissions, including but not limited to, applicable transportation project measures on the Attorney General’s list of project specific measures (California Attorney General’s Office 2010), as well as the CAPCOA reference, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA 2010). These include, but are not limited to, the following:
• Implement construction measures through construction bid specifications, including the following topics:
  o Use energy and fuel efficient vehicles and equipment;
  o Use alternative fuel vehicles and equipment;
  o Use lighting systems that are energy efficient, including LED technology;
  o Use lighter-colored pavement, binding agents that are less GHG-intensive than Portland cement, and less-GHG intensive asphalt pavements; and
  o Recycle construction debris.
• Install efficient lighting (including LEDs) for traffic, street, and other outdoor lighting.
• Incorporate infrastructure electrification into project design (e.g., electric vehicle charging; charging for electric bikes).
• Incorporate electric vehicle supply equipment (EVSE) into projects that include commuter parking areas.
• Design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.
• Design measures to reduce energy consumption and increase use of renewable energy, such as solar-powered toll booths and other facilities, including those listed in Mitigation Measure and EN-3B.
• Design measures to reduce water consumption, such as drought-resistant landscaping, smart irrigation systems, and other measures including those listed in Mitigation Measure WS-1A.
• Construct buildings to Leadership in Energy and Environmental Design (LEED) certified standards or equivalent standards.

Funding for those measures that SANDAG selects would be included in individual project budgets.

GHG-4G Implement Measures to Reduce GHG Emissions from Transportation Projects (Other Transportation Project Sponsors)

During the planning, design, project-level CEQA review, construction, and operation of transportation network improvements, other transportation project sponsors can and should implement measures to reduce GHG emissions, including, but not limited to, those described in Mitigation Measure GHG-4F.

GHG-4H Implement Measures to Reduce GHG Emissions from Development Projects (Local Governments)

During the planning, design, project-level CEQA review, construction, and operation of development projects, the County of San Diego and cities can and should implement measures to reduce GHG emissions, including but not limited to, applicable land use measures on the Attorney General’s list of project specific measures (California Attorney General’s Office 2010), as well as the CAPCOA reference, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA 2010). These measures include, but are not limited to, the following:
• Construction measures, including those listed in Mitigation Measure GHG-4F.

• Measures that reduce VMT by increasing transit use, carpooling, bike-share and car-share programs, and active transportation, including:
  o Building or funding a major transit stop within or near development, in coordination with transit agencies;
  o Developing car-sharing and bike-sharing programs;
  o Providing transit incentives, including transit passes for MTS/NCTD buses and trolleys;
  o Consistent with the Regional Bicycle Plan, incorporating bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
  o Implementing complete streets consistent with the SANDAG Regional Complete Streets Policy, including adopting local complete streets policies;
  o Implementing mobility hubs consistent with the Regional Mobility Hub Strategy;
  o Improving transit access to bus and trolley routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to trolley and transit stations; and
  o Implementing employer trip reduction measures to reduce employee trips and VMT such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs.

• Measures that reduce VMT through parking strategies based on the SANDAG Regional Parking Management Toolbox, including:
  o Parking pricing strategies consistent with the Toolbox;
  o Reduced minimum parking requirements;
  o Residential parking permit programs;
  o Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
  o Provide adequate bicycle parking;
  o Other strategies in the SANDAG Regional Parking Management Toolbox

• Measures that reduce VMT through Transportation Systems Management (TSM), including measures included in Plan Appendix E.

• Land use siting and design measures that reduce GHG emissions, including:
  o Developing on infill and brownfields sites;
  o Building high density and mixed use developments near transit; and
  o Retaining on-site mature trees and vegetation and planting new trees.

• Measures that increase vehicle efficiency or reduce the carbon content of fuels, including constructing electric vehicle charging stations or neighborhood electric vehicle networks consistent with SANDAG’s regional readiness planning for alternative fuels.
• Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.

• Measures to reduce energy consumption and increase use of renewable energy, including those listed in Mitigation Measures EN-3A and EN-3B.

• Measures to reduce water consumption, including those listed in Mitigation Measure WS-1A.

Mitigation Measures AQ-4A, AQ-4B, and AQ-4C would also reduce emissions of GHGs by reducing overall pollutant emissions from equipment and vehicles. These measures include:

• Mitigation Measure AQ-4A. Reduce Exposure to Localized Particulate and/or TAC Emissions.

• Mitigation Measure AQ-4B. Reduce diesel emissions during construction from off-road equipment.

• Mitigation Measure AQ-4C. Reduce diesel emissions during construction from on-road vehicles.

Mitigation Measures EN-3B would also reduce emissions of GHGs by reducing conventional energy use and therefore reducing emissions associated with combustion of fossil fuels used in conventional power plants.

Mitigation Measure WS-1A would increase water conservation, and thereby reduce GHG emissions associated with water supply conveyance, storage, treatment, and distribution.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, GHG-4H, AQ-4A, AQ-4B, AQ-4C, EN-3B, and WS-1A have been required in, or incorporated into, the Plan to reduce this significant impact of inconsistency with the State’s ability to achieve the GHG reduction goals of Executive Order B-30-15 and S-3-05. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, GHG-4H, AQ-4A, AQ-4B, AQ-4C, EN-3B, and WS-1A would reduce this significant impact related to inconsistency with the State’s ability to achieve the GHG reduction goals of Executive Order B-30-15 and S-3-05. The EIR’s discussion of mitigation measures for Impact GHG-4 (in Section 4.8) evaluates the effectiveness of plan-level mitigation measures to be implemented by SANDAG (Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, and GHG-4E). The effectiveness of a number of the remaining projectspecific measures in reducing GHG emissions has been quantified by CAPCOA (2010). Based on the studies cited in the introduction to the mitigation measures section of EIR Section 4.8, however, even full implementation of all identified mitigation measures would not be sufficient to reduce the Plan’s GHG emissions below the regional 2030 and 2050 GHG reduction reference points based on EO B-30-15 and EO-S-3-05.

Full implementation of many of the measures that could result in a 40% reduction of GHG emissions by 2030 and an 80% reduction of GHG emissions by 2050 in the San Diego region would require major changes in clean technologies utilization, markets, and state and federal policies and regulations.
Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, GHG-4H, AQ-4A, AQ-4B, AQ-4C, EN-3B, and WS-1A would help reduce regional GHG emissions through reducing VMT, increasing use of alternative fuels, and other measures; they would reduce inconsistency of the propose Plan’s GHG emissions with the state’s ability to achieve the EO B-30-15 and EO-S-3-05 GHG reduction goals. However, full implementation of changes required to achieve the Executive Orders’ goals is beyond SANDAG’s or local agencies’ current ability to implement.

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (GHG-4) remains significant and unavoidable.

**Cumulative Greenhouse Gas Emissions Impacts (EIR Section 5.2.8)**

**Significant Impacts**

Because cumulative global greenhouse gas emissions by 2035 and 2050 would be significant, and because the Plan’s incremental greenhouse gas emissions impacts are significant in 2035 and 2050, the Plan’s incremental greenhouse gas emissions impacts (GHG-4) are cumulatively considerable in 2035 and 2050.

**Mitigation Measures**

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, GHG-4H, AQ-4A, AQ-4B, AQ-4C, EN-3B, and WS-1A would reduce the Plan’s significant greenhouse gas emissions impact related to inconsistency with the State’s ability to achieve the GHG reduction goals of Executive Order B-30-15 and S-3-05, but not to a less than significant level.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, GHG-4H, AQ-4A, AQ-4B, AQ-4C, EN-3B, and WS-1A have been required in, or incorporated into, the Plan to reduce the Plan’s significant greenhouse gas emissions impact. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4C, GHG-4D, GHG-4E, GHG-4F, GHG-4G, GHG-4H, AQ-4A, AQ-4B, AQ-4C, EN-3B, and WS-1A would reduce the Plan’s significant greenhouse gas emissions impact. However, for the reasons stated above, these measures do not reduce this significant impact to a less than significant level.

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to cumulatively significant greenhouse gas emissions impacts to a less than significant level, this impact (GHG-4) remains cumulatively considerable post-mitigation.
I. HAZARDS AND HAZARDOUS MATERIALS (EIR SECTION 4.9)

HAZ-5 - Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (2020, 2035, 2050)

Significant Impact

Additional regional growth and land use change forecasted by 2050, but not transportation network improvements and programs, would expose additional people and structures to a significant risk of loss, injury, or death involving wildland fires.

Mitigation Measures

Implementation of Mitigation Measures HAZ-5A and HAZ-5B would reduce this significant impact, but not to a less than significant level.

HAZ-5A Reduce Wildfire Risk. During planning, design and project-level CEQA review of development projects located in known High Fire Hazard Areas, the County of San Diego, cities, and other local jurisdictions can and should ensure that project sponsors and project applicants implement measures to reduce impacts from wildfires. Such measures include, but are not limited to:

- 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 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.

HAZ-5B Ensure Emergency Response Services. During planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should reduce impacts of wildfires on people and structures by ensuring that:

- Adequate emergency response services, emergency response times, and emergency plans are in place.
- Emergency response services and emergency response times and plans are or will be available to meet service levels identified in the applicable local general plan or service master plan. This should be documented in the form of a capacity analysis or provider will-serve letter.
- Fire access road network plans are or will be available for inclusion in Community Plans or other planning documents.
- Fire apparatus access roads and secondary access for projects are provided.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures HAZ-5A and HAZ-5B have been required in, or incorporated into, the Plan to reduce this significant impact of exposing additional people and structures to a significant risk of loss, injury, or death involving wildland fires.
The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures HAZ-5A and HAZ-5B would reduce significant impacts related to exposing additional people and structures to a significant risk of loss, injury, or death involving wildland fires. However, for the reasons stated above, these measures do not reduce this significant impact to a less than significant level.

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (HAZ-5) remains significant and unavoidable.

**Cumulative Hazards and Hazardous Materials Impacts (EIR Section 5.2.9)**

**Significant Impact**

Because the cumulative hazards impact related to wildland fires throughout the southern California and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental hazards impact related to wildland fires are significant in 2020, 2035, and 2050, the Plan’s incremental hazards impact related to wildland fires (HAZ-5) is cumulatively considerable in 2020, 2035, and 2050.

**Mitigation Measures**

Implementation of Mitigation Measures HAZ-5A and HAZ-5B would reduce the significant impact related to exposing additional people and structures to a significant risk of loss, injury, or death involving wildland fires, but not to a less than significant level.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures HAZ-5A and HAZ-5B have been required in, or incorporated into, the Plan to reduce the Plan’s significant cumulative hazards impact related to wildland fires. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures HAZ-5A and HAZ-5B would reduce the Plan’s significant hazards impact related to wildland fires. However, these mitigation measures do not reduce the Plan’s incremental contribution to this cumulative impact to a less than significant level in all locations for all future wildfires through 2050 due to the relatively large amount of area within the San Diego region considered at high risk for wildland fires and the level of uncertainty regarding the location, frequency, and severity of future wildfires.
The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to the cumulatively significant hazards impact related to wildland fires to a less than significant level, this impact (HAZ-5) remains cumulatively considerable post-mitigation.

J. LAND USE (EIR SECTION 4.11)

**LU-1 Physically divide an established community (2035 and 2050)**

*Significant Impact*

By 2035 and 2050, planned transportation network improvements, but not forecasted regional growth and land use change, would physically divide established communities.

*Mitigation Measure*

Implementation of Mitigation Measures LU-1A and POP-2A would reduce this significant impact, but not to a less than significant level.

**LU-1A Provide Access and Connections.** During planning, design, and project-level CEQA review of transportation network improvements including new trolley extensions, and roadway widening improvements, SANDAG shall, and other transportation project sponsors can and should, design new transportation network improvements within established communities to avoid the creation of barriers that physically divide such communities with measures that include, but are not limited to:

- Selecting alignments within or adjacent to existing public rights-of-way.
- Designing sections above- or below-grade to avoid physical division of communities.
- Providing for direct crossings, overcrossings, or undercrossings at regular intervals for various modes of travel (e.g., pedestrians/bicyclists, vehicles).

**Mitigation Measure POP-2A Design Projects to Reduce Displacement** would also help to reduce the impact of physical division of established communities.

*Findings and Rationale*

The SANDAG Board of Directors finds that the provisions of Mitigation Measures LU-1A and POP-2A have been required in, or incorporated into, the Plan to reduce this significant impact of physically dividing established communities. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures LU-1A and POP-2A would reduce significant impacts related to physically dividing established communities. However, at this time, it cannot be guaranteed that all segments of future Trolley and SPRINTER extensions would have alignments and design features that would avoid physically dividing established communities.
The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (LU-1) remains significant and unavoidable.

**LU-2 Conflict with the land use portion of adopted local general plans or other applicable land use plans, including specific plans and community plans adopted for the purpose of avoiding or mitigating an environmental effect (2035 and 2050)**

**Significant Impact**

By 2035 and 2050, planned transportation network improvements, but not forecasted regional growth and land use change, would conflict with land use portions of adopted general plans or other applicable land use plans, including specific plans and community plans, adopted for the purpose of mitigating an environmental effect.

**Mitigation Measure**

Implementation of Mitigation Measures LU-2A and POP-2A would reduce this significant impact, but not to a less than significant level.

**LU-2A Reduce Conflicts with Land Use Plans.** During planning, design, and project-level CEQA review of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, implement measures to reduce conflicts with land use plans adopted for the purpose of mitigating an environmental effect, including but not limited to (1) consulting with the County of San Diego and cities, and other local jurisdictions early in the planning process, to identify conflicts and address them through the facility planning and design process, and (2) incorporating design features that would avoid or reduce such conflicts.

**Mitigation Measure POP-2A Design Projects to Reduce Displacement** would also help to reduce land use conflicts.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures LU-2A and POP-2A have been required in, or incorporated into, into the Plan to reduce this significant impact of conflicting with land use portions of adopted general plans or other applicable land use plans, including specific plans and community plans, adopted for the purpose of mitigating an environmental effect. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures LU-2A and POP-2A would reduce significant impacts related to conflicting with land use portions of adopted general plans or other applicable land use plans, including specific plans and community plans, adopted for the purpose of mitigating an environmental effect.
However, at this time, it cannot be guaranteed that all segments of future Trolley and SPRINTER extensions would have alignments and design features that would avoid land use conflicts with adopted plans. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (LU-2) remains significant and unavoidable.

**Cumulative Land Use Impacts (EIR Section 5.2.11)**

**Significant Impacts**

Because cumulative land use impacts throughout the southern California region by 2035 and 2050 would be significant, and because the Plan’s incremental land use impacts are significant in 2035 and 2050, the Plan’s incremental land use impacts (LU-1 and LU-2) are cumulatively considerable in 2035 and 2050.

**Mitigation Measures**

Implementation of Mitigation Measures LU-1A, LU-2A, and POP-2A would reduce significant land use impacts related to physically dividing established communities and conflicting with land use portions of adopted general plans or other applicable land use plans, including specific plans and community plans, adopted for the purpose of mitigating an environmental effect, but not to less than significant levels.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures LU-1A, LU-2A, and POP-2A have been required in, or incorporated into, the Plan to reduce the Plan’s significant land use impacts. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures LU-1A, LU-2A, and POP-2A would reduce the Plan’s significant land use impacts. However, while these mitigation measures reduce the Plan’s significant land use impacts, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to cumulatively significant land use impacts to less than significant levels, these impacts (LU-1 and LU-2) remain cumulatively considerable post-mitigation.
K. NOISE AND VIBRATION (EIR SECTION 4.12)

N-1 Expose persons to or generation of noise levels in excess of standards established in local general plans or noise ordinances, or applicable standards of other agencies (2020, 2035, 2050)

Significant Impact

By 2020, 2035, and 2050, forecasted regional growth and land use change and planned transportation network improvements would expose sensitive receptors (e.g., residences, nursing homes, schools, libraries) to noise levels in excess of applicable standards.

Mitigation Measures

Implementation of Mitigation Measures N-1A and N-1B would reduce this significant impact, but not to a less than significant level.

N-1A Implement Construction Noise Reduction Measures. SANDAG shall, and other transportation project sponsors can and should, implement construction noise reduction measures to substantially lessen the exposure of noise sensitive receptors to construction noise levels that exceed applicable standards in the planning, design, project-level CEQA review, and construction of transportation network improvements. These measures include, but are not limited to:

- Maintain construction equipment and vehicles per manufacturers’ specifications and fit equipment with noise suppression devices (e.g., improved mufflers, equipment redesign, intake silencers, wraps, ducts, engine enclosures).
- Minimize construction equipment idling when equipment is not in use.
- Provide buffer zones or other techniques between stationary equipment (such as generators, compressors, rock crushers, and cement mixers) and the noise receptor.
- For impact tools (e.g., jack hammers, pavement breakers, rock drills), use hydraulically or electrically powered tools; where use of pneumatic tools is unavoidable, use an exhaust muffler on the compressed air exhaust. Use external jackets on the tools themselves. Use quieter procedures such as drills rather than impact equipment.
- For rock-crushing or screening operations, place material stockpiles as a noise barrier blocking line-of-sight between the operations and receptors.

In addition, for pile driving or other activities generating greater than 90 dBA during construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement noise reduction measures, including but not limited to:

- Erect temporary noise barriers around the noise generating activities, particularly adjacent to residential buildings;
- Implement “quiet” pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
• Monitor the effectiveness of noise attenuation measures by performing compliance noise monitoring at noise-sensitive receptors during construction.

In addition, during planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should avoid or reduce impacts associated with construction noise consistent with the above noise reduction measures.

**N-1B  Implement Operational Noise Reduction Measures.** SANDAG shall, and other transportation project sponsors can and should, implement noise reduction measures to substantially lessen the exposure of noise sensitive receptors to operational noise levels that exceed applicable standards during the planning, design, project-level CEQA review, operation, and maintenance of transportation network improvements. These measures include, but are not limited to:

• Utilize techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials, and traffic calming measures; and

In addition, for railway projects, SANDAG shall, and other transportation project sponsors can and should, implement measures to substantially lessen noise levels that exceed FTA/FRA railway noise exposure thresholds during planning, design, and project-level CEQA review. These measures include, but are not limited to:

• Use wheel treatments such as damped wheels and resilient wheels;
• Use vehicle treatments such as vehicle skirts and under car acoustically absorptive material
• Establish sufficient buffer zones between railroad and receptors;
• Use sound reduction barriers such as landscaped berms and dense plantings;
• Install sound insulation treatments for impacted structures;
• Implement FRA “quiet zone” requirements in cooperation with local jurisdictions (i.e., reducing or eliminating the requirement for train locomotives to blast their horns) for Plan improvements at new and existing at-grade rail crossings; and
• New and expanded rail corridors and features such as new rail tracks and double-tracking will receive project-level noise analysis to ensure that measures are implemented to substantially lessen noise levels that exceed applicable standards.

In addition, for development projects, the County of San Diego, cities, and other local jurisdictions can and should implement noise reduction measures to meet local noise standards during the planning, design, and project-level CEQA review of development projects, including but not limited to:

• Use land use measures such as zoning, site design, and buffers to ensure that future development is noise compatible with adjacent transportation facilities and land uses; and
• Site noise-sensitive land uses away from noise-generating facilities. Once sited, orient outdoor use areas of land uses (e.g., backyards) away from adjacent noise sources to shield area with buildings, or construct noise barriers to reduce exterior noise levels.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures N-1A and N-1B have been required in, or incorporated into, the Plan to reduce this significant impact of exposing sensitive receptors (e.g., residences, nursing homes, schools, libraries) to noise levels in excess of applicable standards.
The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures N-1A and N-1B would reduce significant impacts related to exposing sensitive receptors (e.g., residences, nursing homes, schools, libraries) to noise levels in excess of applicable standards. However, it cannot be guaranteed that all future project-level impacts would be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (N-1) remains significant and unavoidable.

N-2 Cause a substantial temporary or periodic increase in ambient noise levels (2020, 2035, 2050)

Significant Impact

By 2020, 2035, and 2050, forecasted regional growth and land use change and planned transportation network improvements would result in substantial temporary increases in noise levels, defined as increases of 10 dBA or above. Noise-sensitive land uses would be located in areas where ambient noise levels would temporarily increase by 10 dBA or above during construction, and construction would temporarily increase ambient noise levels by greater than 10 dBA at noise-sensitive land uses.

Mitigation Measures

Implementation of Mitigation Measure N-1A above would reduce this significant impact, but not to a less than significant level.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measure N-1A have been required in, or incorporated into, the Plan to reduce this significant impact of causing substantial temporary increases in ambient noise levels. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measure N-1A would reduce significant impacts related to causing substantial temporary increases in ambient noise levels. However, it cannot be guaranteed that all future project-level impacts would be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (N-2) remains significant and unavoidable.
**N-3 Cause a substantial permanent increase in ambient noise levels (2020, 2035, 2050)**

**Significant Impact**

By 2020, 2035, and 2050, forecasted regional growth and land use change and planned transportation network improvements would result in a substantial permanent increase in ambient noise levels. Land use changes in some locations would locate development in areas of noise-sensitive land uses, where noise levels could increase substantially (5 dBA CNEL or greater) above existing conditions. Some transportation network improvements would increase ambient noise levels by 5 dBA CNEL or more from the movement of traffic closer to receivers or development of new facilities where none currently exist.

**Mitigation Measures**

Implementation of Mitigation Measure N-1B above would reduce this significant impact, but not to a less than significant level.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measure N-1B have been required in, or incorporated into, the Plan to reduce this significant impact of causing substantial permanent increases in ambient noise levels. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measure N-1B would reduce significant impacts related to causing substantial permanent increases in ambient noise levels. However, it cannot be guaranteed that all future project-level impacts would be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (N-3) remains significant and unavoidable.

**N-4 Expose persons to or generation of excessive groundborne vibration or groundborne noise levels (2020, 2035, 2050)**

**Significant Impact**

By 2020, 2035, and 2050, forecasted regional growth and land use change and planned transportation network improvements would expose persons to or generate excessive groundborne vibration and noise exceeding applicable quantitative thresholds. In some locations, vibration impacts associated with new development under the proposed would exceed significance thresholds for structural damage and human annoyance due to location of sensitive receptors near transportation vibration sources and due to pile-driving needed for some projects, e.g., high-rises. Similarly, transportation network improvements using pile driving would expose sensitive receptors to excessive groundborne vibration and noise levels. Also, vibration from increased train activity would be significant at distances of less than 250 feet.
Mitigation Measures

Implementation of Mitigation Measures N-4A and N-4B would reduce this significant impact, but not to a less than significant level.

**N-4A Implement Construction Groundborne Vibration and Noise Reduction Measures.** SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement measures during design, project-level CEQA review, and construction of transportation network improvements or development projects, to reduce groundborne vibration and noise levels generated by on-site construction equipment, including, but not limited to, the following:

- Predrill pile holes within 300 feet of any sensitive receptor;
- Where feasible, use soil mix wall for excavation;
- Incorporate a comprehensive construction vibration specification into all construction bid documents;
- Require contractor to assess potential for damage to buildings within 100 feet of a tunnel boring;
- Require contractor to perform a physical survey to document existing condition of a building that might incur damage; and
- If pile driving and/or other vibration-generating construction activities are to occur within 60 feet of a historic structure whose integrity would be impaired by exceeding the vibration threshold for historic structures, implement measures to reduce vibration impacts, including but not limited to:
  - Retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that would damage any historic structure, and design construction methods to not exceed the thresholds.
  - Require groundborne vibration monitoring of nearby historic structures. Implement monitoring program to detect ground settlement or lateral movement of structures in the vicinity of pile-driving activities and identify corrective measures to be taken should monitored vibration levels indicate the potential for vibration damage to historic structures.
  - Require contractor to assess potential damage to buildings within 200 feet of areas where excavation requires the use of driven piles either by impact or vibratory methods;

**N-4B Implement Groundborne Vibration and Noise-reducing Measures for Rail Operations.** SANDAG shall, and other transportation project sponsors can and should, implement vibration-reducing measures, to meet FTA vibration guidelines (FTA 2006), during the planning, design, project-level CEQA review, construction, and operation of rail projects, including, but not limited to, providing special track support systems such as floating slabs, resiliently supported ties, high-resilience fasteners, and ballast mats.

In addition, rail operators can and should implement groundborne vibration and noise-reducing measures, to meet applicable FTA vibration guidelines (FTA 2006), during the planning, design, project-level CEQA review, construction, and operation of rail projects, including, but not limited to, the following:

- Conduct rail grinding on a regular basis to keep tracks smooth;
• Conduct wheel truing to re-contour wheels to provide a smooth running surface and removing wheel flats; and

• To reduce groundborne noise, achieve vibration isolation of the track from underlying surface using:
  o Highly resilient direct fixation fasteners,
  o rail suspended fastener system,
  o isolated slab track system, and
  o floating slab track system.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures N-4A and N-4B have been required in, or incorporated into, the Plan to reduce this significant impact of exposing persons to or generating excessive groundborne vibration and noise exceeding applicable quantitative thresholds. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures N-4A and N-4B would reduce significant impacts related to exposing persons to or generating excessive groundborne vibration and noise exceeding applicable quantitative thresholds. However, it cannot be guaranteed that all future project-level impacts would be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (N-4) remains significant and unavoidable.

**Cumulative Noise and Vibration Impacts (EIR Section 5.2.12)**

**Significant Impacts**

Because cumulative noise and vibration impacts throughout the southern California and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental noise and vibration impacts are significant in 2020, 2035, and 2050, the Plan’s incremental noise and vibration impacts (N-1, N-2, N-3, and N-4) are cumulatively considerable in 2020, 2035, and 2050.

**Mitigation Measures**

Implementation of Mitigation Measures N-1A, N-1B, N-4A, and N-4B would reduce significant noise and vibration impacts related to exposing sensitive receptors (e.g., residences, nursing homes, schools, libraries) to noise levels in excess of applicable standards, causing temporary and permanent increases in ambient noise levels, and exposing persons to or generating excessive groundborne vibration and noise exceeding applicable quantitative thresholds, but not to less than significant levels.
Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures N-1A, N-1B, N-4A, and N-4B have been required in, or incorporated into, the Plan to reduce the significant cumulative noise and vibration impacts. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG's responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures N-1A, N-1B, N-4A, and N-4B would reduce the Plan's significant cumulative noise and vibration impacts. However, while these mitigation measures reduce the Plan's significant noise and vibration impacts, it cannot be guaranteed that all future project-level cumulative impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan's incremental contributions to cumulatively significant noise and vibration impacts to less than significant levels, these impacts (N-1, N-2, N-3 and N-4) remain cumulatively considerable post-mitigation.

L. POPULATION AND HOUSING (EIR SECTION 4.13)

POP-1 Induce substantial increases in population, either directly (for example, by proposing new homes or businesses), or indirectly (for example, through extension of roads or other infrastructure) (2020, 2035, 2050)

Significant Impact

By 2020, 2035, and 2050, forecasted regional growth and land use change and planned transportation network improvements and programs would induce substantial increases in population.

Mitigation Measures

There are no feasible mitigation measures for this significant impact.

Findings and Rationale

The SANDAG Board of Directors finds that the Plan would induce substantial increases in population. SANDAG has no control over the amount of population growth the region would experience during the implementation of the Plan. The regional growth and land use change forecasted in the Plan would be implemented by local jurisdictions through local plans and individual development projects.

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives are available to reduce the impact to a less than significant level, this impact (POP-1) remains significant and unavoidable.
**POP-2 Displace substantial numbers of people or housing units, which would necessitate the construction of replacement housing elsewhere (2020, 2035, 2050)**

**Significant Impact**

By 2020, forecasted regional growth and land use change, but not planned transportation network improvements, would displace a substantial number of people and housing units, necessitating the construction of replacement housing elsewhere. By 2035 and 2050, forecasted regional growth and land use change and planned transportation network improvements would displace a substantial number of people and housing units, necessitating the construction of replacement housing elsewhere.

**Mitigation Measure**

Implementation of Mitigation Measure POP-2A would reduce this significant impact, but not to a less than significant level.

**POP-2A Design Projects to Reduce Displacement.** SANDAG shall, and other transportation project sponsors can and should, identify project alignments during planning, design, and project-level CEQA review that avoid permanent property acquisitions that would result in substantial displacement of people or housing units. Where avoidance is not feasible, measures to reduce substantial displacement include, but are not limited to, the following:

- Selecting alignments within existing public rights-of-way.
- Designing sections above- or below-grade to avoid property acquisition that would cause displacement of people or housing units.
- Selecting alignments within properties that result in the least amount of displacement, for example, acquiring vacant or undeveloped portions of property rather portions occupied by housing units.

In addition, during planning, design, and project-level CEQA review of land development projects, the County of San Diego, cities, and other local jurisdictions can and should develop design strategies to avoid or reduce displacement of people or housing units. For development projects that would displace people or housing units, alternative designs to retain existing housing on-site, alternative project site locations, and provision of replacement housing as a mitigation measure can and should be evaluated.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measure POP-2A have been required in, or incorporated into, the Plan to reduce this significant impact of displacing a substantial number of people and housing units, necessitating the construction of replacement housing elsewhere. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measure POP-2A would reduce significant impacts related to displacing a substantial number of people and housing units, necessitating the construction of replacement housing elsewhere. However, there is no guarantee that significant displacement impacts would be reduced to less-than-significant levels for all projects.
The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (POP-2) remains significant and unavoidable.

**Cumulative Population and Housing Impacts (EIR Section 5.2.13)**

**Significant Impacts**

Because cumulative population and housing impacts throughout the southern California and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental population and housing impacts are significant in 2020, 2035, and 2050, the Plan’s incremental population and housing impacts (POP-1 and POP-2) are cumulatively considerable in 2020, 2035, and 2050.

**Mitigation Measures**

As discussed above under POP-1, there are no feasible mitigation measures available for the significant impact of inducing substantial increases in population. Implementation of Mitigation Measure POP-2A would reduce significant population and housing impacts related to displacing a substantial number of people and housing units, necessitating the construction of replacement housing elsewhere, but not to less than significant levels.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measure POP-2A have been required in, or incorporated into, the Plan to reduce the significant cumulative population and housing impacts related to displacing a substantial number of people and housing units, necessitating the construction of replacement housing elsewhere. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measure POP-2A would reduce the Plan’s significant population and housing impacts. However, while this mitigation measure reduces the Plan’s significant population and housing impacts, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to cumulatively significant population and housing impacts to less than significant levels, these impacts (POP-1 and POP-2) remain cumulatively considerable post-mitigation.
M. PUBLIC SERVICES AND UTILITIES (EIR SECTION 4.14)

PS-1 Result in the substantial physical deterioration of public facilities or cause substantial adverse physical impacts associated with the provision of or need for new or physically altered (i.e. expanded) public facilities, in order to maintain adequate fire and police protection, emergency services, schools, libraries, and recreation facilities (2020, 2035, 2050)

Significant Impact

By 2020, 2035, and 2050, implementation of regional growth and land use change, but not planned transportation network improvements, would result in substantial adverse impacts associated with the substantial physical deterioration of existing facilities and the construction of new or expanded public facilities.

Mitigation Measure

Implementation of Mitigation Measure PS-1A would reduce this significant impact, but to not a less than significant level.

PS-1A Implement Mitigation Measures for New/Expanded Public Service Facilities. During planning, design, and project-level CEQA review of development or public facilities projects, the County of San Diego, cities, and public service providers can and should implement mitigation measures to avoid or reduce significant environmental impacts associated with the construction of new or expanded public facilities. Mitigation measures should be implemented by public service providers directly responsible for the construction or expansion activities. Significant environmental impacts requiring mitigation may include, but are not limited to, air quality, noise, traffic, biological resources, cultural resources, GHG emissions, hydrology and water quality, and water supply.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measure PS-1A have been required in, or incorporated into, the Plan to reduce this significant impact of substantial adverse impacts associated with the substantial physical deterioration of existing facilities and the construction of new or expanded public facilities. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measure PS-1A would reduce significant impacts related to substantial adverse impacts associated with the substantial physical deterioration of existing facilities and the construction of new or expanded public facilities. However, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (PS-1A) remains significant and unavoidable.
**U-1 Result in the expansion or construction of wastewater collection and treatment facilities to adequately meet projected capacity needs, the construction of which could cause significant environmental impacts (2020, 2035, 2050)**

**Significant Impact**

By 2020, 2035, and 2050, implementation of regional growth and land use change, but not planned transportation network improvements, would result in substantial adverse physical impacts associated with the construction and operation of new or expanded wastewater facilities and collection systems.

**Mitigation Measures**

Implementation of Mitigation Measures U-1A and WS-1A would reduce this significant impact, but to not a less than significant level.

**U-1A Implement Mitigation Measures for New/Expanded Wastewater Facilities.** During planning, design, and project-level CEQA review of development projects, wastewater treatment facilities, and collection systems, the County of San Diego, cities, and wastewater management agencies can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of wastewater facilities and collection systems. Mitigation measures should be implemented by wastewater management agencies directly responsible for the approval and construction of new or expanded collection systems or treatment plants. Significant environmental impacts requiring mitigation may include but are not limited to air quality, noise, traffic, biological resources, cultural resources, energy, greenhouse gas emissions, hydrology and water quality, and water supply.

**Mitigation Measure WS-1A** would reduce water use for construction and operation of projects. These measures to reduce water use would reduce the amount of wastewater that ultimately requires treatment.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures U-1A and WS-1A have been required in, or incorporated into, the Plan to reduce this significant impact of substantial adverse physical impacts associated with the construction and operation of new or expanded wastewater facilities and collection systems. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures U-1A and WS-1A would reduce significant impacts related to substantial adverse physical impacts associated with the construction and operation of new or expanded wastewater facilities and collection systems. However, there is no guarantee that significant impacts would be reduced to less-than-significant levels for all projects. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (U-1) remains significant and unavoidable.
**U-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 impacts (2020, 2035, 2050)**

**Significant Impact**

By 2020, 2035, and 2050, implementation of regional growth and land use change as well as transportation network improvements would result in substantial adverse physical impacts associated with the construction of new or expanded storm water facilities.

**Mitigation Measure**

Implementation of Mitigation Measure U-2A would reduce this significant impact, but to not a less than significant level.

**U-2A Implement Mitigation Measures for New/Expanded Storm Water Drainage Facilities.** During planning, design, and project-level CEQA review of development projects or storm water projects, the County of San Diego, cities, and storm water management agencies can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of storm water facilities. Mitigation measures should be implemented by storm water management agencies directly responsible for the construction of new or expanded storm water facilities. Significant environmental impacts requiring mitigation may include, but are not limited to, air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, and water supply.

For transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, be required to implement storm water BMPs during planning, design, project-level CEQA review, and project construction. Measures include, but are not limited to, capturing rainwater for on-site reuse, such as for landscape irrigation.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measure U-2A have been required in, or incorporated into, the Plan to reduce this significant impact of substantial adverse physical impacts associated with the construction of new or expanded storm water facilities. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measure U-2A would reduce significant impacts related to substantial adverse physical impacts associated with the construction of new or expanded storm water facilities. However, there is no guarantee that significant impacts would be reduced to less-than-significant levels for all projects. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (U-2) remains significant and unavoidable.
**U-3 Require or result in the construction of new solid waste disposal facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects (2035 and 2050)**

**Significant Impact**

By 2035 and 2050, implementation of regional growth and land use change as well as transportation network improvements would result in substantial adverse physical impacts associated with the construction of new or expanded solid waste facilities.

**Mitigation Measures**

Implementation of Mitigation Measures U-3A, U-3B, and U-3C would reduce this significant impact, but to not a less than significant level.

**U-3A Implement Mitigation Measures for New/Expanded Solid Waste Facilities.** During planning, design, and project-level CEQA review of solid waste facility projects, solid waste management agencies can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of landfills.

Mitigation measures should be implemented by solid waste management agencies directly responsible for the construction of new or expanded solid waste facilities. Significant environmental impacts requiring mitigation may include, but are not limited to, air quality, traffic, and water quality.

**U-3B Reduce Construction Waste.** During planning, design, and project-level CEQA review, and prior to the construction or demolition of transportation network improvement projects and development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement measures to reduce construction waste, including but not limited to the following:

- Ensure that source reduction techniques and recycling measures are incorporated into project construction/demolition; and
- Reuse and/or recycle construction and demolition waste.

This mitigation measure would extend the life of existing landfills and delay the need to construct new or expanded landfills.

**U-3C Implement Green Building Measures.** During planning, design, and construction of development projects, the County of San Diego, cities, and other local jurisdictions can and should integrate green building waste management measures such as those identified in the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED), Energy Star Homes, Green Point Rated Homes, and the California Green Builder Program. These measures include, but are not limited to, the following:

- Reuse and minimize C&D debris and increase diversion of C&D waste from landfills to recycling facilities;
- Prepare and apply a waste management plan that promotes C&D diversion;
- Implement source reduction through (1) using materials that are more durable and easier to repair and maintain, (2) designing to generate less scrap material through dimensional planning, (3) increasing recycled content, (4) using reclaimed materials, and (5) using structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.);
• Reuse existing structures and shells in renovation projects;
• Design for flexibility through the use of moveable walls, raised floors, modular furniture, moveable task lighting, and other reusable building components; and
• Develop an indoor recycling program and space.

This mitigation measure would extend the life of existing landfills and delay the need to construct new or expanded landfills.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures U-3A, U-3B, and U-3C have been required in, or incorporated into, the Plan to reduce this significant impact of substantial adverse physical impacts associated with the construction of new or expanded solid waste facilities. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures U-3A, U-3B, and U-3C would reduce significant impacts related to substantial adverse physical impacts associated with the construction of new or expanded solid waste facilities. However, there is no guarantee that significant impacts would be reduced to less-than-significant levels for all projects. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (U-3) remains significant and unavoidable.

Cumulative Public Services and Utilities Impacts (EIR Section 5.2.14)

Significant Impacts

Because cumulative public services and utilities impacts throughout the southern California and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental public services and utilities impacts are significant in 2020, 2035, and 2050, the Plan’s incremental public services and utilities impacts (PS-1, U-1, U-2, U-3) are cumulatively considerable in 2020, 2035, and 2050 (2020 impacts related to solid waste disposal are less than cumulatively considerable).

Mitigation Measures

Implementation of Mitigation Measures PS-1A, U-1A, U-2A, and U-3A would reduce significant public services and utilities impacts associated with the construction of new and expanded public facilities, wastewater treatment facilities, and storm water facilities, but not to less than significant levels.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures PS-1A, U-1A, U-2A, and U-3A have been required in, or incorporated into, the Plan to reduce the Plan’s significant public services and utilities impacts associated with the construction of new and expanded public facilities, wastewater treatment facilities, and storm water facilities.
The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures PS-1A, U-1A, U-2A, and U-3A would reduce the Plan’s significant public services and utilities impacts. However, while these mitigation measures reduce the Plan’s significant public services and utilities impacts, it cannot be guaranteed that all future project-level cumulative impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to cumulatively significant public services and utilities impacts to less than significant levels, these impacts (PS-1, U-1, U-2, U-3) remain cumulatively considerable post-mitigation.

N. TRANSPORTATION (EIR SECTION 4.15)

T-1 Increase average daily vehicle miles traveled per capita or total vehicle miles traveled (2020, 2035, 2050)

Significant Impact

By 2020, 2035, and 2050, implementation of regional growth and land use change and planned transportation network improvements would increase total annual VMT. Total annual VMT would increase from approximately 79,000,000 in 2012 to 85,000,000 in 2020, 90,000,000 in 2035, and 94,000,000 in 2050.

Mitigation Measures

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4E, and GHG-4H would reduce this significant impact, but to not a less than significant level.

Overview. Many features currently included in the Plan (e.g., the SCS, increased transit and active transportation investments) have the effect of reducing VMT that might otherwise occur. The GHG mitigation measures presented in this section are additional feasible VMT reduction measures not included in the Plan that SANDAG would or other agencies could implement. Other potential mitigation measures to reduce total VMT are included as components of the alternatives analyzed in Chapter 6.0, rather than as individual mitigation measures in this section. These include still more compact land use patterns, accelerated and increased transit investments, reduced or no highway investments, and policies to reduce transit fares, increase parking prices, and establish road user fees.
Mitigation Measures GHG-4A, GHG-4B, GHG-4E, and GHG-4H would reduce VMT. These measures, and their ability to reduce VMT, are summarized below:

- **Mitigation Measure GHG-4A** Allocate Competitive Grant Funding to Projects that Reduce GHG Emissions. SANDAG would reduce VMT by adopting new or revised grant criteria to give greater weight to a project’s ability to directly reduce GHG emissions through, among other means, directly reducing VMT, for example, through parking strategies. Also, SANDAG would require locally adopted CAPs and complete streets policies, both of which typically reduce VMT, as prerequisites to be eligible for grant funding.

- **Mitigation Measure GHG-4B** Adopt a Detailed Regional Mobility Hub Implementation Plan to Reduce GHG Emissions. SANDAG would adopt a regional implementation plan for mobility hubs, which reduce vehicle trips and VMT through making it easier and more efficient to use transit, bicycles, and walking as alternatives to passenger vehicles.

- **Mitigation Measure GHG-4E** Assist in the Preparation of Climate Action Plans and Other Measures to Reduce GHG Emissions. SANDAG would provide financial and technical assistance to local governments in the preparation of CAPs, and other policies/measures to reduce GHG emissions, which typically include VMT reduction measures.

- **Mitigation Measure GHG-4H** Implement Measures to Reduce GHG Emissions from Development Projects. The County of San Diego and cities can and should implement measures to reduce GHG emissions, including measures to reduce VMT such as:
  - Increasing transit use, carpooling, bike-share and car-share programs, and active transportation.
  - Parking strategies based on the SANDAG Regional Parking Management Toolbox.
  - Transportation Systems Management (TSM) measures.
  - Land use siting and design measures.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures GHG-4A, GHG-4B, GHG-4E, and GHG-4H have been required in, or incorporated into, into the Plan to reduce this significant impact of an increase in total annual VMT. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4E, and GHG-4H would reduce significant impacts related to an increase in total annual VMT. However, these mitigation measures would not reduce this impact (T-1) to a less than significant level as demonstrated by the alternatives analysis in EIR Chapter 6.0, Alternatives. The feasibility of an alternative that would reduce total VMT is discussed in Chapter 6.0. As described throughout Chapter 6.0, even Alternative 5D, which has the most compact land use pattern and the most measures to reduce VMT, is unable to reduce total VMT to below 2012 levels. As explained in Section VII of these findings, Alternative 5D is infeasible to implement. To be implemented, this alternative would require a major State road pricing policy change, and major changes in land use policies, parking policies, and transit funding beyond SANDAG’s or local agencies’ authority to implement.
Implementing an alternative that substantially reduces VMT to below 2012 levels would require still additional measures to reduce total VMT beyond those in Alternative 5D: even more compact development than a multiple dense cores scenario, further substantial increases in the cost of driving, and further substantial transit service improvements.

Additional VMT-reducing measures like these may ultimately be needed to reduce VMT, but currently are considered infeasible for several reasons, including the further changes needed in legislation and policy; lack of availability and allowable uses of funding for the transit service improvements; severe economic and social impacts to residents and businesses caused by substantial increases in driving costs; and lack of authority of SANDAG or local governments to implement these types of measures. In addition, population growth is the main cause of increases in total VMT, and SANDAG has no authority to control population growth in the region.

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (T-1) remains significant and unavoidable.

_Cumulative Transportation Impacts (EIR Section 5.2.16)_

**Significant Impacts**

Because cumulative transportation impacts throughout the southern California and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental transportation impacts are significant in 2020, 2035, and 2050, the Plan’s incremental transportation impacts (T-1) are cumulatively considerable in 2020, 2035, and 2050.

**Mitigation Measures**

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4E, and GHG-4H would reduce significant impacts related to an increase in total annual VMT. However, these mitigation measures would not reduce this impact (T-1) to a less than significant level.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures GHG-4A, GHG-4B, GHG-4E, and GHG-4H have been required in, or incorporated into, the Plan to reduce the Plan’s significant transportation impacts related to increases in total annual VMT. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures GHG-4A, GHG-4B, GHG-4E, and GHG-4H would reduce the Plan’s significant cumulative transportation impacts. However, for the reasons stated above, these mitigation measures would not reduce this impact (T-1) to a less than significant level.
The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan's incremental contributions to cumulatively significant transportation impacts to less than significant levels, this impact (T-1) remains cumulatively considerable post-mitigation.

O. WATER SUPPLY (EIR SECTION 4.16)

WS-1 Increase demands on existing water supplies such that they would be inadequate to serve future demands, and new or expanded water supplies or entitlements would be needed (2020, 2035, 2050)

Significant Impact

By 2020, 2035, and 2050, increased demands from forecasted regional growth and land use change and transportation network improvements would not be adequately served by existing and future water supplies; new near-term (prior to 2025) and long-term (after 2025) water supplies or entitlements may be required to meet 2020, 2035, and 2050 water demands. In addition, forecasted regional growth and land use change in the Borrego Valley would result in a localized significant impact in 2020, 2035, and 2050 because demands on existing water supplies from the Borrego Valley aquifer would be inadequate to serve future demands.

Mitigation Measures

Implementation of Mitigation Measures WS-1A, WS-1B, and WS-1C would reduce this significant impact, but not to a less than significant level.

WS-1A Implement Water Conservation Measures. SANDAG shall, and other transportation project sponsors can and should, implement feasible water conservation measures during planning, design and project-level CEQA review, construction, operations, and maintenance of transportation network improvements, including, but not limited to, the following:

- Comply with all prevailing state, regional, and local government plans, laws, and policies regarding water conservation and efficiency.
- Install drip or other water-conserving or weather-based irrigation systems for landscaping.
- Install native plant species and noninvasive drought-tolerant/low-water-use plants in landscaping, consistent with the most recent state, regional, and local government plans, laws, and policies.

In addition, the County of San Diego, cities, and other local jurisdictions can and should incorporate water conservation measures, including, but not limited to, those measures listed above, and measures and policies regarding water efficiency, conservation, capture, and reuse identified by water suppliers in state, regional, and local plans, laws, and policies, and in their own plans and ordinances, during planning, design, and project-level CEQA review of development projects.
WS-1B Use Reclaimed Water. SANDAG shall, and other transportation project sponsors can and should, incorporate use of reclaimed water (also known as recycled water) during planning, design, project-level CEQA review, construction, operations, and maintenance of transportation network improvements to reduce the use of potable water.

The County of San Diego, cities, and other local jurisdictions can and should incorporate use of reclaimed water as a measure during planning, design, and project-level CEQA review of development projects, including, but not limited to, the following:

- On-site water recycling.
- Recycled water to fill lakes, ponds, and ornamental fountains; for irrigation; and to mix concrete and control dust at construction sites.
- Recycled water for certain industrial processes and for flushing toilets and urinals in nonresidential buildings.
- Recycled water for street sweeping purposes.

WS-1C Ensure Adequate Water Supply. During planning, design, and project-level CEQA review for development projects, the County of San Diego, cities, and other local jurisdictions can and should ensure that adequate water supply will be available to meet or satisfy projected water demands, consistent with applicable UWMPs, Master Plans, and General Plan projections of water supply and demand. This can and should be documented in the form of an SB 610 Water Supply Assessment, an SB 221 Water Supply Verification, or other capacity analysis.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures WS-1A, WS-1B, and WS-1C have been required in, or incorporated into, the Plan to reduce this significant impact of existing and future water supplies being inadequate, and the potentially need for new water supplies or entitlements. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures WS-1A, WS-1B, and WS-1C would reduce significant impacts related to existing and future water supplies being inadequate, and the potentially need for new water supplies or entitlements However, there is no guarantee that the mitigation measures would reduce the significant water supply impacts to a less-than-significant level because they would not assure that regional water supplies would be available to meet regional water demands needs in 2020 2035, and 2050. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (WS-1) remains significant and unavoidable.
**WS-2 Require or result in the construction of new water facilities or the expansion of existing facilities to adequately meet forecast demand or capacity needs, the construction of which could cause a significant environmental effect (2020, 2035, 2050)**

**Significant Impact**

By 2020, 2035, and 2050, implementation of regional growth and land use change and transportation network improvements and programs would result in construction of new or expanded water facilities. Impacts of constructing some of these facilities would be significant.

**Mitigation Measures**

Implementation of Mitigation Measures WS-2A, WS-1A, WS-1B, and WS-1C would reduce this significant impact, but to not a less than significant level.

**WS-2A Mitigation Measures for New or Expanded Water Facilities.** SDCWA, the County of San Diego, cities, and other local jurisdictions will be responsible for the construction of new water facilities, or the expansion of existing facilities, to adequately meet forecasted capacity needs. Mitigation measures should be implemented by water management agencies directly responsible for the construction of new or expanded water facilities. During the planning, design, and project-level CEQA review process for individual water facilities, these agencies can and should adopt measures to avoid or reduce significant environmental impacts associated with the construction or operation of such facilities. Such measures should include those necessary to avoid or reduce significant impacts including, but not limited to, air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology, and water quality. Many of these measures are described at a program level of detail in the SDCWA Water Supply Master Plan Update EIR (SDCWA 2013c).

**Mitigation Measures WS-1A, 1B, and 1C** would also reduce this impact by reducing water demands, thereby reducing the need for new water facilities.

**Findings and Rationale**

The SANDAG Board of Directors finds that the provisions of Mitigation Measures WS-2A, WS-1A, WS-1B, and WS-1C have been required in, or incorporated into, the Plan to reduce this significant impact of constructing new or expanded water facilities that could result in significant effects. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures WS-2A, WS-1A, WS-1B, and WS-1C would reduce significant impacts related to constructing new or expanded water facilities that could result in significant effects. However, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make additional mitigation measures or project alternatives infeasible. Since no feasible mitigation measures or project alternatives have been found to reduce the impact to a less than significant level, this impact (WS-2) remains significant and unavoidable.
Cumulative Water Supply Impacts (EIR 5.2.16)

Significant Impacts

Because cumulative water supply impacts throughout the state of California, Lower Colorado River Basin, and northern Baja California region by 2020, 2035 and 2050 would be significant, and because the Plan’s incremental water supply impacts are significant in 2020, 2035, and 2050, the Plan’s incremental water supply impacts (WS-1 and WS-2) are cumulatively considerable in 2020, 2035, and 2050.

Mitigation Measures

Implementation of Mitigation Measures WS-1A, WS-1B, and WS-1C would reduce the Plan’s significant water supply impacts related to the availability of adequate water supplies and construction of new or expanded water treatment and conveyance facilities, but not to less than significant levels.

Findings and Rationale

The SANDAG Board of Directors finds that the provisions of Mitigation Measures WS-1A, WS-1B, and WS-1C have been required in, or incorporated into, the Plan to reduce the Plan’s significant water supply impacts related to the availability of adequate water supplies and construction of new or expanded water treatment and conveyance facilities. The SANDAG Board of Directors finds that specified provisions of these mitigation measures are SANDAG’s responsibility to implement, while other provisions are within the responsibility and jurisdiction of other transportation project sponsors, cities, the County, and other public agencies, and that such provisions can and should be adopted by these other agencies.

Implementation of Mitigation Measures WS-1A, WS-1B, and WS-1C would reduce the Plan’s significant water supply impacts. However, while these mitigation measures reduce the Plan’s significant water supply impacts, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make certain mitigation measures or alternatives identified in the EIR infeasible. Since no feasible mitigation measures or alternatives have been found to reduce the Plan’s incremental contributions to cumulatively significant water supply impacts to less than significant levels, these impacts (WS-1 and WS-2) remain cumulatively considerable post-mitigation.

V. FINDING REGARDING SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES (EIR SECTION 7.3)

CEQA requires that an EIR must address any significant irreversible environmental changes that would be caused if the proposed project were implemented (CEQA Guidelines §15126.2(c)). An impact would come under this category if (1) the project would involve a large commitment of nonrenewable resources; (2) the primary and secondary impacts of the project would generally commit future generations to similar uses; (3) the project involves uses in which irreversible damage could result from any potential environmental incidents associated with the project; and (4) the proposed consumption of resources is not justified.
Implementation of the Plan would result in permanent changes to the existing environment, which have been described throughout the EIR. While the Plan focuses development into existing urban areas and along existing or future transportation corridors, there will still be some conversion of undeveloped land to urbanized uses. These conversions are considered a permanent irreversible change and would occur directly through construction of development on undeveloped land. Land use changes and transportation network improvements would result in significant irreversible impacts to aesthetics and visual resources, including changes to existing community character and views. Future development projects associated with the Plan would result in a direct irreversible loss of sensitive vegetation communities that supports rare, threatened, or endangered species, and impacts to these resources would be significant and irreversible. The development of currently undeveloped land and other land use changes would result in significant irreversible impacts to agricultural resources and forest lands, and the availability of known mineral resources. The Plan would substantially induce irreversible population growth and increased density, which would displace existing housing units, and result in additional people that would be susceptible to noise impacts. As development occurs at urban edges, additional people and structures would be at risk from wildland fires.

The Plan’s regional growth and land use changes would result in the irreversible consumption of nonrenewable resources. This use will have an incremental and irreversible effect on such resources. The irreversible commitment of limited resources is inherent in any development project or, in the case of the Plan, aggregated development projects. Resources anticipated to be irreversibly committed over the timespan of the Plan include, but are not limited to, lumber and other related forest products; sand, gravel, and concrete; petrochemicals; construction materials; steel, copper, lead, and other metals; and water. Development associated with the Plan represents a long-term commitment to the consumption of fossil fuel oil and natural gas. These increased energy demands relate to construction, lighting, heating, and cooling of residences and buildings, and construction and operation of transit systems.

VI. FINDING REGARDING GROWTH-INDUCING IMPACTS (EIR SECTION 7.4)

The SANDAG Board of Directors has reviewed and considered the information on growth-inducing impacts, including the information provided in comments on the Draft EIR and the responses to those comments in the Final EIR. The CEQA guidelines (§15126.2(d)) require a discussion of growth-inducing impacts of a project. A project may be considered growth inducing when it:

- Fosters economic growth, population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment;
- Removes obstacles to population growth or additional housing;
- Burdens existing community service facilities beyond current/projected capacities; or
- Encourages or facilitates other activities that could significantly affect the environment.

A project is defined as growth inducing when it: directly or indirectly fosters economic growth, population growth, or additional housing; removes obstacles for growth; or encourages or facilitates other activities that would significantly affect the environment (CEQA Guidelines Section 15126.2). Growth inducement would be caused by the provision or extension of utilities and public services. For example, the development of water, wastewater, fire, or other services in previously underserved areas; the extension of transportation routes into undeveloped areas; and the establishment of major new employment opportunities would all induce growth. The Plan is considered growth-inducing for the following reasons.
From 2012 to 2050, the regional population is forecasted to increase by over 925,000 people (29 percent), over 326,000 housing units, and over 460,000 jobs. The Plan’s objectives include focusing population and employment growth in existing urbanized areas to protect sensitive habitat and natural resource areas, and providing transportation investments that support compact land development patterns.

The Plan focuses this population, housing unit, and employment growth in urbanized areas near existing and planned transportation infrastructure and in areas with existing utilities and municipal or public services. This growth pattern would preserve sensitive habitat, open space, and farmland. Approximately 1.3 million acres of land would be protected and preserved, more than half of the region’s land area. The Plan accommodates approximately 79 percent of all housing units and approximately 86 percent of all jobs within the Urban Area Transit Strategy (UATS), where the greatest public transit investments are focused. Over 80 percent of new housing in the region would be attached multifamily units.

The Plan results in construction of additional housing. However, the areas the Plan targets for construction of these additional housing units are largely within previously developed areas. Most of these areas have established roadways and utilities, as well as water and sewer services. The placement of additional housing units in established areas would require upgrading and resizing of existing infrastructure, including water facilities. The upgrading of these facilities would further remove obstacles to the construction of additional housing within and adjacent to these areas. Chapter 2.0, Project Description, and Section 4.13, Population and Housing, further describe forecasted population, housing unit, and job growth within the region.

The planned transportation network improvements of the Plan are intended to expand upon the current transportation network and enhance the transit-oriented opportunities to improve the mobility of people and goods around the region while reducing GHG emissions and other environmental impacts. These transportation network improvements would remove obstacles to growth in some areas of the region, which would support additional housing, population, and economic growth. Section 4.13, Population and Housing, discusses forecasted regional population and employment growth associated with the Plan. As described in Chapter 4 and Appendix P of the Plan, implementation of the planned transportation network improvements and programs would benefit the regional economy. The economic effects of construction and operation of the planned transportation network, along with the economic effects of a more efficient network (relative to a “no build” scenario), including an average increase in the regional economy of approximately 53,000 jobs and $13 billion in gross regional product (GRP) per year. This equates to an increase of 2.5 percent in employment, and 4 percent in GRP between 2012 and 2050.

VII. FINDINGS REGARDING ALTERNATIVES EVALUATED IN EIR

The SANDAG Board of Directors (Board) has reviewed and considered the information on alternatives provided in the EIR, including the information provided in comments on the Draft EIR, the responses to those comments in the Final EIR and all comments received up to the date of adoption of these findings.

A. LEGAL REQUIREMENTS FOR ALTERNATIVES

Public Resources Code § 21002 provides that “public agencies should not approve projects as proposed if there are feasible alternatives...which would substantially lessen he significant environmental effects of such projects.” “Feasible” means “capable of being accomplished in a reasonable period of time taking into account economic, environmental, legal, social, and technological factors” (CEQA Guidelines § 15364).
The concept of feasibility also encompasses whether a particular alternative promotes the Project’s underlying goals and objectives, and whether an alternative is impractical or undesirable from a policy standpoint. (See *City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410; *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957.)

The issue of alternatives feasibility arises twice in the CEQA process, once when the EIR is prepared, and again when CEQA findings are adopted. When assessing feasibility in an EIR, the EIR preparer evaluates whether an alternative is “potentially” feasible. Potentially feasible alternatives are suggestions by the EIR preparers which may or may not be adopted by lead agency decision-makers. The fact that an alternative is more costly, or that budgets and funding priorities would need to be revised to implement an alternative, does not automatically mean that an alternative is financially infeasible for purposes of EIR evaluation.

When CEQA findings are made after EIR certification, the lead agency decision-making body independently evaluates whether the alternatives are actually feasible, including whether an alternative is impractical or undesirable from a policy standpoint. (See *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957.) In making this determination, the decision-making body considers information in the Draft EIR, additional information in the Final EIR and elsewhere in the administrative record, and policy factors. (See Guidelines Section 15091(a)(3).) Where the feasibility of alternatives evaluated in the EIR is dependent upon changes in existing laws, regulations or funding patterns, the decision-making body must consider the likelihood that such changes will occur within the time frame for implementation of the proposed project.

An EIR must only evaluate reasonable alternatives to a project that could feasibly attain most of the project objectives and evaluate the comparative merits of the alternatives (CEQA Guidelines § 15126.6(a)). In all cases, the consideration of alternatives is to be judged against a rule of reason. The lead agency is not required to choose the environmentally superior alternative identified in the EIR if the alternative is infeasible.

**B. PROJECT OBJECTIVES**

Project alternatives, as described in Chapter 6.0 Alternatives Analysis of the EIR, were intended to achieve the following basic objectives of the Plan:

1. Focus population and employment growth in existing urbanized areas to protect sensitive habitat and natural resource areas.
2. Provide transportation investments that support compact land development patterns.
3. Meet GHG emissions targets for passenger cars and light-duty trucks.
4. Provide transportation investments and land use patterns that promote public health and safety.
5. Use *TransNet* revenue as matching funds to maximize funding from non-*TransNet* sources.
6. Provide access to jobs and key destinations for all communities.
7. Make transportation investments that reduce travel times for all trips.
8. Enhance the efficiency of the transportation network through the deployment of new technologies.
C. ALTERNATIVES ANALYZED IN THE EIR

The EIR considered in detail the following eight alternatives to the Plan:

1. No Project Alternative
2. Sustainable Communities Strategy/Advanced Revenue Constrained Transit + Revenue Constrained Highway (SCS + Trans Alt 2)
3. Sustainable Communities Strategy/Advanced Revenue Constrained Transit + Delayed Revenue Constrained Highway (SCS + Trans Alt 3)
4. Intensified Smart Growth/Advanced Revenue Unconstrained Transit + Modified Managed Lanes (SG Intensification + Trans Alt 4)
5. Sustainable Communities Strategy/Advanced Revenue Unconstrained Transit + Highway General Purpose Lane Conversion (SCS + Trans Alt 5A)
5A. Sustainable Communities Strategy/Advanced Revenue Unconstrained Transit + Highway General Purpose Lane Conversion (SCS + Trans Alt 5A)
5B. Multiple Dense Cores/Advanced Revenue Unconstrained Transit + Highway General Purpose Lane Conversion (Multi Dense Cores + Trans Alt 5A)
5C. Multiple Dense Cores/Advanced Revenue Unconstrained Transit + Highway General Purpose Lane Conversion + New Transit and Parking Policies (Multi Dense Cores + Trans Alt 5C)
5D. Multiple Dense Cores + Advanced Revenue Unconstrained Transit + Highway General Purpose Lane Conversion + New Transit and Parking Policies + New Driving Fee (Multi Dense Cores + Trans Alt 5D)

These eight alternatives are summarized in the text below and described in more detail in Chapter 6.0 of the EIR. The action alternatives (2, 3, 4, 5A, 5B, 5C, 5D) are summarized in Table 1.

Alternative 1: No Project

Description

CEQA requires a No Project Alternative to be analyzed in the EIR. The No Project Alternative assumes that the Plan would not be adopted or implemented.

The No Project Alternative assumes the Series 13 Regional Growth Forecast land use (same as included in the Plan). The Series 13 Regional Growth Forecast was accepted for planning purposes by SANDAG’s Board of Directors in October 25, 2013, and would likely be implemented even if the Plan was not adopted because it is based on the adopted general plans of the 18 cities and County government. Although the total population, number of housing units, and number of jobs by 2050 would likely be the same as the Plan under this alternative, the pattern of development within the region would likely be less compact since all transit improvements included in the Plan would not be available to support the transit-oriented compact development pattern envisioned in the Plan. SANDAG transportation and growth modeling has shown that the likelihood of housing stock and households locating in an area is correlated with the accessibility of transportation and employment. Therefore, in the absence of future transportation network improvements and programs identified in the Plan, it is likely that the future land use pattern would see relatively less concentration of population, housing and jobs in major transportation corridors and relatively more growth occurring in less developed areas of the region.
Table 1
Summary of Action Alternatives Considered in the EIR

<table>
<thead>
<tr>
<th>Action Alternative</th>
<th>A. Transit$ ^2$</th>
<th>B. Active$ ^3$</th>
<th>C. Managed Lanes$ ^4$</th>
<th>D. Highway$ ^5$</th>
<th>E. Land Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>All revenue constrained by 2025</td>
<td>All projects by 2025</td>
<td>If support Rapid$ ^6$, same as column A. If not, same as column D.</td>
<td>No change</td>
<td>SCS Land Use</td>
</tr>
<tr>
<td>3</td>
<td>All revenue constrained by 2025</td>
<td>All projects by 2025</td>
<td>If support Rapid, same as column A. If not, same as column D.</td>
<td>Delay all to 2050</td>
<td>SCS Land Use</td>
</tr>
</tbody>
</table>
| 4                  | All revenue constrained and unconstrained by 2025 | All projects by 2025 | If support Rapid, same as column A. If not, same as column D. Reduce scope of MLs: 
- Eliminate proposed increases to 4ML where 2ML already exist, 
- Reduce proposed increases to 4ML to 2ML | Eliminate | Smart Growth Area Intensification |
| 5A                 | All revenue constrained and unconstrained by 2025 | All projects by 2025 | Eliminate. Convert existing general purpose lanes to managed lanes to operate proposed Rapid routes. | Eliminate | SCS Land Use |
| 5B                 | Same as Alternative 5A | All revenue constrained and unconstrained by 2025 | All projects by 2025 | Dense Cores |
| 5C                 | Same as Alternative 5A + New Transit and Parking Policies | Same as Alternative 5A + New Transit and Parking Policies | Dense Cores |
| 5D                 | Same as Alternative 5A + New Transit and Parking Policies + Increased Auto Operating Cost | Same as Alternative 5A + New Transit and Parking Policies + Increased Auto Operating Cost | Dense Cores |

Source EIR, Chapter 6.0.

The No Project Alternative includes transportation projects likely to be implemented if the Plan were not adopted. These consist of transportation projects with environmental clearance, full funding, under construction, or otherwise reasonably foreseeable based on current plans, as listed in Table D-1 (Appendix D of the EIR) and shown in EIR Figures 6.0-1 and 6.0-2. It includes some projects that were under construction or opened in 2013, 2014, and 2015, because these projects started construction or opened after the EIR baseline year (2012). (The action alternatives (2-5D) assume all the No Project transportation projects would be implemented.)

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$^1$ Each action alternative makes the following assumptions: Advance Urban Core bus route 10-minute all-day frequency improvements to 2025 (2035 under proposed Plan). New toll lanes remain the same as the proposed Plan. Removal of tolls on SR 125 remains the same as the proposed Plan. TSM and TDM investments remain the same as the proposed Plan.

$^2$ Transit = COASTER, SPRINTER, Trolley, Rapid, Streetcar, San Marcos Shuttle, Airport Express, Intermodal, and Other (vehicles, system rehabilitation, regulatory compliance, park-and-ride).

$^3$ Active = Regional Bike Network Project List.

$^4$ Managed Lanes = managed lanes and managed lane connectors.

$^5$ Highway = general purpose lanes, operational improvements, freeway connectors.

$^6$ Rapid services refer to both bus rapid transit (BRT) that operates on Managed Lanes and Rapid bus that provides higher-speed alternatives to local bus services in high-volume arterial corridors and utilizes a range of lower-capital cost signal priority treatments, transit-only lanes, and limited station stops to achieve faster travel times.
Findings and Rationale

The SANDAG Board finds that specific economic, financial, legal, social, technological or other considerations make Alternative 1 infeasible and rejects this alternative for the reasons explained below:

First, the No Project Alternative does not reduce any of the Plan’s significant impacts to less than significant levels.

Second, Alternative 1 fails to meet any of the basic project objectives. Alternative 1 would not focus population and employment growth in existing urbanized areas to protect sensitive habitat and natural resource areas (objective 1) and would not provide transportation investments that support compact land development patterns (objective 2). This alternative would not meet these basic objectives because in the absence of the Plan’s transportation improvements, there would be less compact development in existing neighborhoods and major transportation corridors and more growth in less developed areas of the region. The absence of the Plan’s transportation improvements and its less compact development and more growth in less developed areas of the region would likely cause the region to not meet its GHG emissions targets for passenger cars and light-duty trucks, in particular the 2035 target (objective 3). This alternative would not meet the objective to provide transportation investments that promote public health and safety (objective 4) because more people would drive alone, the annual accident rate for bicycles and pedestrians would be higher, fewer people and jobs would be located near transit stops and bike facilities.

Because the Plan would not be adopted under this alternative, it would not be possible to use TransNet revenue as matching funds to maximize funding from non-TransNet sources (objective 5) because the region would lose access to many sources of funding by not having an adopted Plan. This alternative would fail to provide access to jobs and key destinations for all communities (objective 6) and would not make transportation investments reduce travel times for all trips (objective 7) because compared to the Plan it would result in higher daily vehicle delay per capita; peak-period travel time to work would be slower for drive alone, transit, and carpool modes; travel times to and from neighboring counties and military bases would be slower; fewer people would be within 30 minutes of jobs and higher education using transit; fewer people would be within 15 minutes of retail, health care, active parks, and active beaches using transit; and fewer people would be within 15 minutes of an active beach driving alone.

Alternative 1 would not enhance the efficiency of the transportation network through the deployment of new technologies (objective 8). New technologies to make travel more reliable and convenient would not be employed, nor would the efficiency of the transportation system be managed to improve traffic flow to the same degree offered by the Plan because the region would lose access to funding sources needed to pay for deployment of new technologies if the Plan were not adopted.

Third, Alternative 1 is legally infeasible. It does not meet the requirements of federal transportation planning law. Pursuant to 23 USC §134(i), SANDAG is required to “prepare and update” its RTP every four years if it is in an area designated as nonattainment under the federal Clean Air act. Alternative 1 would also not meet the requirements of 23 USC §134(h)(1) which requires that the RTP contain projects and strategies that will:

(A) support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
(B) increase the safety of the transportation system for motorized and nonmotorized users;
(C) increase the security of the transportation system for motorized and nonmotorized users;
(D) increase the accessibility and mobility of people and for freight;
(E) protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
(F) enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
(G) promote efficient system management and operation; and
(H) emphasize the preservation of the existing transportation system.

**Alternative 2: Sustainable Communities Strategy/Advanced Revenue Constrained Transit + Revenue Constrained Highway (SCS + Trans Alt 2)**

**Description**

This alternative would implement the SCS land use pattern (same as the Plan) and complete the public transit and active transportation projects of the Plan within 10 years (by 2025) as suggested by public comments during the scoping process, instead of the Plan’s 35-year period (by 2050). Specifically, this alternative would:

- Complete all public transit capital projects and public transit operations improvements in the Plan by 2025.
- Complete managed lanes (MLs) and ML connectors in the Plan that support Rapid routes by 2025.
- Implement 10-minute all-day frequencies for Urban Core local bus routes by 2025.
- Complete all active transportation projects in the Plan by 2025.

EIR Figure 6.0-3 identifies the transit network that would be implemented by 2025 under Alternative 2. This figure shows conditions in 2025 because under this alternative the entire transit network of the Plan would be completed by 2025. Because this alternative would complete all transit projects from the 2035 and 2050 phases of the Plan by 2025, the 2035 and 2050 transit networks for Alternative 2 would look the same as the 2025 network shown on EIR Figure 6.0-3. In 2050, the Alternative 2 transit network would be the same as the Plan.

EIR Figure 6.0-4 identifies the managed lane and highway networks that would be implemented by 2025 under Alternative 2. This figure shows conditions in 2025 because under this alternative MLs and ML connectors in the later phases of the Plan that support Rapid service are completed by 2025. In 2050, the Alternative 2 managed lane and highway networks would be the same as the Plan. Table D-2 (in Appendix D of the EIR) provides a list of transportation network improvement projects that would be implemented under this alternative. This alternative is identical to the “Accelerated Transportation Network A” discussed at the January 16, 2015, meeting of the SANDAG Transportation Committee and the January 28, 2015, meeting of the SANDAG Board of Directors.

**Findings and Rationale**

The SANDAG Board finds that specific economic, financial, legal, social, technological or other considerations make Alternative 2 infeasible and rejects this alternative for the reasons explained below.
First, Alternative 2 does not reduce any of the Plan’s significant impacts to less than significant levels. On-road CO2 emissions in 2025 would be about 1 percent higher compared to the Plan, and the increase in total VMT by 2025 would be about 0.2 percent higher compared to the Plan. Daily VMT per capita would be the same under this alternative.

Second, Alternative 2 achieves some project objectives to a lesser extent than the Plan, making this alternative undesirable from a policy standpoint. Objective 4 to provide transportation investments that protect public health and safety would be met to a lesser extent because compared to the Plan the increase in total annual VMT would be slightly higher in 2025 (0.2 percent) and 2035 (0.1 percent) and on-road smog forming pollutants per capita would be about 3 percent higher in 2025 compared to the Plan. Alternative 2 would meet project objective 5—to use TransNet revenue as matching funds to maximize funding from non-TransNet sources—to a much lesser extent because in the Plan approximately 90 percent of state and federal formula funds that SANDAG has discretion over are used to match TransNet funds to complete voter-approved projects. The TransNet Ordinance assumes a 50 percent match in funds from other sources in order to complete the capital projects. In other words, in order to carry out the voter-approved list of projects included in the Ordinance, half of the funding in effect needs to come from other sources. Re-direction of these state and federal matching funds away from TransNet projects in order to advance this alternative’s transit and active transportation projects would create a financial hole in the TransNet program and force completion of some TransNet projects to occur beyond the horizon of the Ordinance (2048) and horizon of the Plan (2050).

Third, Alternative 2 is financially infeasible. Significantly more funding would be required to implement and operate the accelerated capital program of Alternative 2, which is estimated at approximately $34 billion by 2025. This would require approximately $30 billion in new capital funds within a 10-year period, substantially more than the anticipated $4.8 billion in anticipated available revenue (see Chapter 3 of the Plan for discussion of available revenues). The cost to operate the transit facilities would expand from approximately $350 million annually in Fiscal Year 2015, to nearly $1.1 billion annually in Fiscal Year 2025. Total operating costs over the 35 year period (by 2050) would be nearly $49 billion, more than $14 billion more than anticipated available revenues of $34 billion for operations over that timeframe.

There are no additional reasonably available funding sources to cover these very large increases in transit capital costs and operating expenses. The majority of funds (some 71 percent, or about $145 billion) identified in the Plan are “pass through” funds that flow directly to local jurisdictions (cities and County) or other agencies (Caltrans and transit operators) over which SANDAG has no discretion or authority. Of the remaining funds (29 percent, or about $59 billion), there are constraints on when money becomes available during the life of the Plan, meaning that funding programs are typically approved or collected on an annual basis and therefore SANDAG cannot advance the spending of those funds. Furthermore, as explained in Chapter 3 of the Plan, the majority of funding sources are tied to certain types of projects or uses (e.g., transit infrastructure, transit operations, highway operations and maintenance) and SANDAG does not have the authority to interchange them. These funds must be used for specific purposes as determined by Congress or the state Legislature.

Fourth, this alternative is legally infeasible because it does not reflect fiscal constraint under current and expected funding forecasts as required by state and federal transportation law because the amount of funds required would greatly exceed the anticipated available revenues (Government Code Section 65080(b)(4); 23 CFR 450.322(f)(10)(iii).) It is highly unlikely that future state and federal budgets and funding priorities would change to the extent needed to implement this alternative.
Alternative 3: Sustainable Communities Strategy/Advanced Revenue Constrained Transit + Delayed Revenue Constrained Highway (SCS + Trans Alt 3)

Description

Similar to Alternative 2, this alternative would implement the SCS land use pattern (same as the Plan) and complete the public transit and active transportation projects of the Plan within 10 years (by 2025) instead of the planned 35-year period (by 2050). In addition, in an attempt to further reduce VMT, this alternative would delay completion of highway general purpose lanes and freeway connectors in the Plan to the 2050 phase. Specifically, this alternative would:

- Complete all public transit capital projects and public transit operations improvements in the Plan by 2025.
- Complete MLs and ML connectors in the Plan that support Rapid routes by 2025.
- Delay completion of highway general purpose lanes and freeway connectors in the Plan to the 2050 phase.
  - All highway general purpose lanes are already in the 2050 phase of the Plan, except for the addition of two general purpose lanes to an approximately 3-mile segment of SR 67, which would be delayed to the 2050 phase under this alternative.
  - The addition of two general purpose lanes to a segment of SR 76 remains in 2020 since it is under construction as of 2014.
  - Six freeway connectors would be delayed to the 2050 phase.
  - Delay completion of new MLs and ML connectors in the Plan that do not support Rapid routes to the 2050 phase.
- Implement 10-minute all-day frequencies for Urban Core local bus routes by 2025.
- Complete all active transportation projects in the Plan by 2025.

EIR Figure 6.0-3 identifies the transit network that would be implemented by 2025 under Alternative 3. This figure shows conditions in 2025 because under this alternative the entire transit network of the Plan would be completed by 2025. Because this alternative would complete all transit projects from the 2035 and 2050 phases of the Plan by 2025, the 2035 and 2050 transit networks for Alternative 3 would look the same as the 2025 network shown on EIR Figure 6.0-3. In 2050, the Alternative 3 transit network would be the same as the Plan.

EIR Figure 6.0-5 identifies the managed lane and highway networks that would be implemented by 2025 under Alternative 3. This figure shows conditions in 2025 because under this alternative MLs and ML connectors in the later phases of the Plan that support Rapid service are completed by 2025, and highway general purpose lanes and freeway connectors in the Plan are delayed to the 2050 phase. In 2050, the Alternative 3 managed lane and highway networks would be the same as the Plan. Table D-3 (in Appendix D of the EIR) provides a list of transportation network improvement projects that would be implemented under this alternative.

Findings and Rationale

The SANDAG Board finds that specific economic, financial, legal, social, technological or other considerations make Alternative 3 infeasible and rejects this alternative for the reasons explained below:
First, Alternative 3 does not reduce any of the Plan’s significant impacts to less than significant levels. On-road CO2 emissions would be about 0.3 percent higher compared to the Plan in 2025, and about 0.3 percent lower compared to the Plan in 2035. The increases in total VMT under this alternative by 2025 and 2035 would be about 0.4 percent lower compared to the Plan. Daily per capita VMT would be about one-tenth of a mile per person per day lower in 2025 and 2035 compared to the Plan (2025: 24.1 miles/person/day under Alternative 3 compared to 24.2 under the Plan; 2035: 23.5 miles/person/day under Alternative 3 compared to 23.4 under the Plan).

Second, Alternative 3 achieves some project objectives to a lesser extent than the Plan, making this alternative undesirable from a policy standpoint. Objective 4 to provide transportation investments that protect public health and safety would be met to a lesser extent because compared to the Plan the increase in on-road smog forming pollutants per capita would be about 2 percent higher in 2025 compared to the Plan.

Alternative 3 would meet project Objective 5--to use TransNet revenue as matching funds to maximize funding from non-TransNet sources--to a much lesser extent because in the Plan approximately 90 percent of state and federal formula funds that SANDAG has discretion over are used to match TransNet funds to complete voter-approved projects. The TransNet Ordinance assumes a 50 percent match in funds from other sources in order to complete the capital projects. In other words, in order to carry out the voter-approved list of projects included in the Ordinance, half of the funding in effect needs to come from other sources. Re-direction of these state and federal matching funds away from TransNet projects in order to advance this alternative’s transit and active transportation projects would create a financial hole in the TransNet program and force completion of some TransNet projects to occur beyond the horizon of the Ordinance (2048) and horizon of the Plan (2050).

Third, Alternative 3 is financially infeasible. Significant additional funding would be required to implement and operate the accelerated capital program of Alternative 3, which is estimated at approximately $34 billion by 2025. This would require approximately $30 billion in new capital funds within a 10-year period, substantially more than the anticipated $4.8 billion in anticipated available revenue (see Chapter 3 of the Plan for discussion of available revenues). The cost to operate the transit facilities would expand from approximately $350 million annually in Fiscal Year 2015, to nearly $1.1 billion annually in Fiscal Year 2025. Total operating costs over the 35 year period (by 2050) would be nearly $49 billion, more than $14 billion more than anticipated available revenues of $34 billion for operations over that timeframe.

There are no additional reasonably available funding sources to cover these very large increases in transit capital costs and operating expenses. The majority of funds (some 71 percent, or about $145 billion) identified in the Plan are “pass through” funds that flow directly to local jurisdictions (cities and County) or other agencies (Caltrans and transit operators) over which SANDAG has no discretion or authority. Of the remaining funds (29 percent, or about $59 billion), there are constraints on when money becomes available during the life of the Plan, meaning that funding programs are typically approved or collected on an annual basis and therefore SANDAG cannot advance the spending of those funds. Furthermore, as explained in Chapter 3 of the Plan, the majority of funding sources are tied to certain types of projects or uses (e.g., transit infrastructure, transit operations, highway operations and maintenance) and SANDAG does not have the authority to interchange them. These funds must be used for specific purposes as determined by Congress or the state Legislature.
Fourth, this alternative is legally infeasible because it does not reflect fiscal constraint under current and expected funding forecasts as required by state and federal transportation law because the amount of funds required would greatly exceed the anticipated available revenues (Government Code Section 65080(b)(4); 23 CFR 450.322(f)(10)(iii)). It is highly unlikely that future state and federal budgets and funding priorities would change to the extent needed to implement this alternative.

Alternative 4: Intensified Smart Growth/Advanced Revenue Unconstrained Transit + Modified Managed Lanes (SG Intensification + Trans Alt 4)

Description

In an attempt to further reduce VMT, residential densities and employment intensities under Alternative 4 were increased relative to the Plan within specified 2014 Smart Growth Opportunity Areas (SGOAs) identified on the SANDAG Smart Growth Concept Map. Development assumptions for the Metropolitan Center, Urban Center, and Town Center smart growth place types were modified to allow for increased residential and employment development. Special Use centers were modified to allow for increased employment development. There are no changes to other smart growth place types under this alternative. Implementation of this alternative land use pattern would require changes to existing local government land use policies. The land use assumptions for Alternative 4 are described in more detail in EIR Appendix D.

Overall, there is a major increase in housing located within the SGOAs in Alternative 4 as compared with the Plan. Between 2012 and 2050, total housing stock within SGOAs between the Plan and Alternative 4 differs by 35,397 total units – an increase of 7.7 percent for Alternative 4. By 2050, Alternative 4 results in approximately 0.6 percent more single family units within SGOAs compared to the Plan. In terms of multi-family housing stock, Alternative 4 has 34,468 more units within SGOAs – approximately 8.5 percent more than the Plan. As a result of the overall increase in housing stock within SGOAs under Alternative 4 – an additional 250,151 units by 2050 – there is a corresponding increase in the total population within SOGAs of 644,848. By 2050, the population of SGOAs would increase by 95,411 people in Alternative 4 – an 8.5 percent increase – relative to the Plan.

Similar to Alternatives 2 and 3, this alternative would complete the public transit and active transportation projects of the Plan within 10 years (by 2025) instead of the planned 35-year period (by 2050). In addition, this alternative would complete the unconstrained revenue transit projects\(^7\) that are not included in the Plan by 2025. Furthermore, the Plan’s highway investments would be eliminated. Managed lane investments would be reduced relative to the Plan. Specifically, this alternative would:

- Complete all public transit capital projects and public transit operations improvements in the Plan by 2025.
- Complete all revenue unconstrained public transit projects by 2025. This would result in 16 additional transit projects and $7.6 billion additional transit investments compared to the Plan (see Appendix A to the Plan).
- Eliminate the Plan’s investments in highways, including general purpose lanes, operational improvements, and freeway connectors.

\(^7\) The unconstrained project lists show actual needs for the region, without consideration of anticipated revenues.
• Reduce the Plan’s managed lane investments as follows:
  o Eliminate new MLs not serving Rapid routes.
  o Eliminate increases to 4ML where 2ML already exist.
  o Reduce proposed increases from 4ML to 2ML.
  o Maintain additions of 2ML that serve Rapid routes.
  o Maintain ML connectors that serve Rapid routes.
  o Eliminate new ML connectors not serving Rapid routes.
• Implement 10-minute all-day frequencies for Urban Core bus routes by 2025.
• Complete all active transportation projects in the Plan by 2025.

EIR Figure 6.0-6 identifies the managed lane and highway networks that would be implemented by 2050 under Alternative 4. This Figure shows 2050 conditions because under this alternative there are reductions in the Plan’s managed lane investments for all phase years and complete elimination of all the Plan’s highway investments.

EIR Figure 6.0-7A provides a visual depiction of intensified smart growth showing the change in housing units compared to the Plan, while EIR Figure 6.0-7B depicts the change in employment compared to the Plan.

EIR Figure 6.0-8 identifies the transit network that would be implemented by 2025 under Alternative 4. This Figure shows conditions in 2025 because under this alternative the entire transit network of the Plan, and all of the revenue unconstrained transit projects not included in the Plan, would be completed by 2025. Because this alternative would complete all transit projects from the 2035 and 2050 phases of the Plan, and all unconstrained revenue transit projects, by 2025, the 2035 and 2050 transit networks for Alternative 4 would look the same as the 2025 network shown on EIR Figure 6.0-8. Table D-4 (in Appendix D of the EIR) provides a list of transportation network improvement projects that would be implemented under this alternative.

Findings and Rationale

The SANDAG Board finds that specific economic, financial, legal, social, technological or other considerations make Alternative 4 infeasible and rejects this alternative for the reasons explained below:

First, Alternative 4 does not reduce any of the Plan’s significant impacts to less than significant levels. On-road CO2 emissions would be about 0.3 percent higher compared to the Plan in 2025, and about 0.3 percent lower than the Plan in 2050. The increase in total VMT from 2012 to 2025 would be about 7.2 million miles per year, compared to the Plan increase of 7.8 million miles per year by 2025. By 2050, total VMT would increase by 14.1 million miles per year, compared to an increase of 14.9 million miles per year under the Plan. Daily VMT per capita would be about the same under this alternative.

Second, Alternative 4 achieves some project objectives to a lesser extent than the Plan, making this alternative undesirable from a policy standpoint. Objective 4 to provide transportation investments that protect public health and safety would be met to a lesser extent because on-road smog forming pollutants per capita would be about 3 percent higher in 2025 compared to the Plan.

Alternative 4 would meet project Objective 5—to use TransNet revenue as matching funds to maximize funding from non-TransNet sources—to a much lesser extent because in the Plan approximately 90 percent of state and federal formula funds that SANDAG has discretion over are used to match TransNet funds to complete voter-approved projects.
The TransNet Ordinance assumes a 50 percent match in funds from other sources in order to complete the capital projects. In other words, in order to carry out the voter-approved list of projects included in the Ordinance, half of the funding in effect needs to come from other sources. Re-direction of these state and federal matching funds away from TransNet projects in order to advance this alternative’s transit and active transportation projects would create a financial hole in the TransNet program and force completion of some TransNet projects to occur beyond the horizon of the Ordinance (2048) and horizon of the Plan (2050).

Objective 6 to provide access to jobs and key destinations for all communities and Objective 7 to make transportation investments that reduce travel times for all trips would be met to a lesser extent because by 2050 average peak period travel time to work would be one minute (2 percent) longer for all modes, and would be one minute (1 percent) longer for carpoolers. Daily vehicle delay per capita would be one minute (1 percent) higher compared to the Plan. By 2050, average travel times would be longer to and from the Otay Mesa East (5 minutes or 23 percent higher) and Tecate (7 minutes or 16 percent higher) ports of entry with Mexico. Average travel times also would be longer to and from neighboring counties (1 minute or 2 percent higher) and to and from military bases and installations (1 minute or 5 percent higher).

Third, Alternative 4 is financially infeasible. Significant new funding would be required to implement and operate the accelerated capital program of Alternative 4, which is estimated at approximately $42 billion by 2025. This would require approximately $38 billion in new capital funds within a 10-year period, approximately eight times more than the anticipated $4.8 billion in available revenue (see Chapter 3 of the Plan for discussion of available revenues). The cost to operate the transit facilities would expand from approximately $350 million annually in Fiscal Year 2015, to approximately $1.25 billion annually in Fiscal Year 2025. Total operating costs over the 35 year period (by 2050) would be nearly $59 billion, more than $24 billion more than anticipated available revenues of $34 billion for operations over that timeframe.

There are no additional reasonably available funding sources to cover these very large increases in transit capital costs and operating expenses. The majority of funds (some 71 percent, or about $145 billion) identified in the Plan are “pass through” funds that flow directly to local jurisdictions (cities and County) or other agencies (Caltrans and transit operators) over which SANDAG has no discretion or authority. Of the remaining funds (29 percent, or about $59 billion), there are constraints on when money becomes available during the life of the Plan, meaning that funding programs are typically approved or collected on an annual basis and therefore SANDAG cannot advance the spending of those funds. Furthermore, as explained in Chapter 3 of the Plan, the majority of funding sources are tied to certain types of projects or uses (e.g., transit infrastructure, transit operations, highway operations and maintenance) and SANDAG does not have the authority to interchange them. These funds must be used for specific purposes as determined by Congress or the state Legislature.

Fourth, this alternative is legally infeasible for several reasons. It does not reflect fiscal constraint under current and expected funding forecasts as required by state and federal transportation law because the amount of funds required would greatly exceed the anticipated available revenues (Government Code Section 65080(b)(4); 23 CFR 450.322(f)(10)(iii)). It is highly unlikely that future state and federal budgets and funding priorities change to the extent needed to implement this alternative. Additionally, because it is not consistent with current local general plans, this alternative would conflict with SB 375 and Clean Air Act conformity requirements for the most recent planning assumptions to be used for RTPs and conformity determinations. (See Government Code Section 65080(b)(2)(B); 40 CFR 93.110).
Further, SANDAG has no authority to require local governments to adopt local land use plans or approve local land use projects that will implement the SCS or a more intensified land use pattern. SB 375 specifically provides that nothing in SB 375 supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with an RTP/SCS. (Government Code §65080(b)(2)(J).

**Alternative 5A: Sustainable Communities Strategy/Advanced Revenue Unconstrained Transit + Highway General Purpose Lane Conversion (SCS + Trans Alt 5A)**

**Description**

This alternative would implement the SCS land use pattern (same as the Plan) and complete the public transit and active transportation projects of the Plan within 10 years (by 2025) instead of the planned 35-year period (by 2050). In addition, this alternative would complete the unconstrained revenue public transit projects that are not included in the Plan by 2025. Furthermore, the Plan’s highway and managed lane investments would be eliminated, and specified existing highway general purpose lanes would be converted to managed lanes to accommodate Rapid routes. Specifically, this alternative would:

- Complete all public transit capital projects and public transit operations improvements in the Plan by 2025.
- Complete all revenue unconstrained public transit projects by 2025. This would result in 16 additional transit projects and $7.6 billion in additional transit investments compared to the Plan.
- Eliminate the Plan’s investments in highways, including general purpose lanes, operational improvements, and freeway connectors.
- Eliminate the Plan’s investments in managed lanes and managed lane connectors.
- Convert existing general purpose lanes to managed lanes to accommodate Rapid routes that would operate in new Managed Lanes under the Plan.
- Implement 10-minute all-day frequencies for Urban Core local bus routes by 2025.
- Complete all active transportation projects in the Plan by 2025.

EIR Figure 6.0-8 identifies the transit network that would be implemented by 2025 under Alternative 5A-5D. This figure shows conditions in 2025 because under this alternative the entire transit network of the Plan, and all of the revenue unconstrained transit projects not included in the Plan, would be completed by 2025. Because this alternative would complete all transit projects from the 2035 and 2050 phases of the Plan, and all unconstrained revenue transit projects, by 2025, the 2035 and 2050 transit networks for Alternative 4 would look the same as the 2025 network shown on EIR Figure 6.0-8.

EIR Figure 6.0-10 identifies the managed lane and highway networks that would be implemented by 2025 under Alternative 5A. This figure shows 2025 conditions because under this alternative specified existing highway general purpose lanes are converted to MLs to accommodate Rapid service by 2025. The Plan’s managed lane investments and highway investments are completely eliminated for all phase years. EIR Table D-5 (in Appendix D of the EIR) provides a list of transportation network improvement projects that would be implemented under this alternative.
Findings and Rationale

The SANDAG Board finds that specific economic, financial, legal, social, technological or other considerations make Alternative 5A infeasible and rejects this alternative for the reasons explained below:

First, Alternative 5A does not reduce any of the Plan’s significant impacts to less than significant levels. On-road CO2 emissions in 2050 would be about 2 percent lower compared to the Plan, and the increase in total VMT by 2050 would be about 12.4 million miles per year or 16 percent, compared to the Plan increase of 14.9 million miles per year or 19 percent. Daily VMT per capita would be 0.7 miles per day or 3 percent lower under this alternative.

Second, Alternative 5A it achieves some project objectives to a lesser extent than the Plan, making this alternative undesirable from a policy standpoint. Objective 4 to provide transportation investments that protect public health and safety would be met to a lesser extent because the annual rates of vehicle (driver/passenger), bicycle, and pedestrian injury/fatal collisions would be about 8 percent (for vehicles) and 1 percent (for bicycles and pedestrians) higher under this alternative.

Alternative 5A would meet project Objective 5—to use TransNet revenue as matching funds to maximize funding from non-TransNet sources—to a much lesser extent because in the Plan approximately 90 percent of state and federal formula funds that SANDAG has discretion over are used to match TransNet funds to complete voter-approved projects. The TransNet Ordinance assumes a 50 percent match in funds from other sources in order to complete the capital projects. In other words, in order to carry out the voter-approved list of projects included in the Ordinance, half of the funding in effect needs to come from other sources. Re-direction of these state and federal matching funds away from TransNet projects in order to advance this alternative’s transit and active transportation projects would create a financial hole in the TransNet program and force completion of some TransNet projects to occur beyond the horizon of the Ordinance (2048) and horizon of the Plan (2050).

Objective 6 to provide access to jobs and key destinations for all communities and Objective 7 to make transportation investments that reduce travel times for all trips would be met to a lesser extent because by 2050 average peak period travel time to work would be one minute (2 percent) longer for all modes, and would be one minute (1 percent) longer for carpoolers and one minute (2 percent) longer for people driving alone. Daily vehicle delay per capita would be one minute (10 percent) higher compared to the Plan. By 2050, average travel times would be longer to and from the Otay Mesa (one minute or 6 percent higher) the Otay Mesa East (four minutes or 18 percent higher) and Tecate (one minute or 2 percent higher) ports of entry with Mexico. Average travel times also would be longer to and from neighboring counties (three minutes or 5 percent higher) and to and from military bases and installations (1 minute or 2 percent higher).

Third, Alternative 5A is financially infeasible. Significant new funding would be required to implement and operate the accelerated capital program of Alternative 5A, which is estimated at approximately $42 billion by 2025. This would require approximately $38 billion in new capital funds within a 10-year period, approximately eight times more than the anticipated $4.8 billion in available revenue (see Chapter 3 of the Plan for discussion of available revenues). The cost to operate the transit facilities would expand from approximately $350 million annually in Fiscal Year 2015, to approximately $1.25 billion annually in Fiscal Year 2025. Total operating costs over the 35 year period (by 2050) would be nearly $59 billion, more than $24 billion more than anticipated available revenues of $34 billion for operations over that timeframe.
There are no additional reasonably available funding sources to cover these very large increases in transit capital costs and operating expenses. The majority of funds (some 71 percent, or about $145 billion) identified in the Plan are “pass through” funds that flow directly to local jurisdictions (cities and County) or other agencies (Caltrans and transit operators) over which SANDAG has no discretion or authority. Of the remaining funds (29 percent, or about $59 billion), there are constraints on when money becomes available during the life of the Plan, meaning that funding programs are typically approved or collected on an annual basis and therefore SANDAG cannot advance the spending of those funds. Furthermore, as explained in Chapter 3 of the Plan, the majority of funding sources are tied to certain types of projects or uses (e.g., transit infrastructure, transit operations, highway operations and maintenance) and SANDAG does not have the authority to interchange them. These funds must be used for specific purposes as determined by Congress or the state Legislature.

Fourth, this alternative is legally infeasible because it does not reflect fiscal constraint under current and expected funding forecasts as required by state and federal transportation law because the amount of funds required would greatly exceed the anticipated available revenues (Government Code Section 65080(b)(4); 23 CFR 450.322(f)(10)(ii)). It is highly unlikely that future state and federal budgets and funding priorities change to the extent needed to implement this alternative.

Alternative 5B: Multiple Dense Cores/Advanced Revenue Unconstrained Transit + Highway General Purpose Lane Conversion (Multi Dense Cores + Trans Alt 5A)

Description

To examine the ability of land strategies to further reduce VMT, this alternative would implement a land use pattern that focused forecasted housing and employment growth into four existing urban cores around high-quality transit fixed-route stops. EIR Figure 6.0-9A provides a visual depiction of a multiple dense core growth pattern for Alternatives 5B, 5C and 5D showing the change in housing units compared to the Plan, while EIR Figure 6.0-9B depicts the change in employment compared to the Plan. These figures also identify the boundary of the four urban cores. Implementation of this alternative land use pattern would require changes to existing local government land use policies. The land use assumptions of Alternatives 5B-5D are described in more detail in EIR Appendix D. The transportation components of this alternative would be the same as Alternative 5A (EIR Figures 6.0-8 and 6.0-10). EIR Table D-5 (in Appendix D of the EIR) provides a list of transportation network improvement projects that would be implemented under this alternative.

In this alternative, approximately 70 percent of the future housing growth is located within the Dense Cores, with the remaining 30 percent being mostly located in the surrounding Transit Priority Areas (TPAs). This paragraph describes forecasted growth under this alternative within Dense Cores only (forecasted growth within Dense Cores and TPAs is shown in Table 3 of EIR Appendix D-2).

As shown in Table 2 of EIR Appendix D-2, total housing stock within the dense cores is approximately 4.7 percent higher than in the Plan. The majority of this increase can be attributed to the significant increase in multi-family units. Between 2012 and 2050, multi-family units increase by 244,961 units, or 97.4 percent. Multi-family housing stock within the Dense Cores in this alternative is 7 percent greater relative to the Plan by 2050. Single family housing stock, by comparison, sees a slight increase within Dense Cores compared to the Plan, approximately 0.7 percent higher. Between 2012 and 2050 employment grows from 884,704 to 1,269,654 within Dense Cores; over 5.1 percent more than 2050 employment in Dense Cores under the Plan.
Findings and Rationale

The SANDAG Board finds that specific economic, financial, legal, social, technological or other considerations make Alternative 5B infeasible and rejects this alternative for the reasons explained below:

First, Alternative 5B does not reduce any of the Plan’s significant impacts to less than significant levels. On-road CO2 emissions in 2050 would be about 2 percent lower compared to the Plan, and the increase in total VMT by 2050 would be about 11.6 million miles per year or 15 percent, compared to the Plan increase of 14.9 million miles per year or 19 percent. Daily VMT per capita would be about 0.9 miles or 4 percent lower under this alternative. Plan1, U-2, U-3); Transportation (T-1, T-2, T-3, T-4); and Water Supply (WS-1, WS-2).

Second, Alternative 5B achieves some project objectives to a lesser extent than the Plan, making it undesirable from a policy standpoint.

Alternative 5B would meet project Objective 5--to use TransNet revenue as matching funds to maximize funding from non-TransNet sources--to a much lesser extent because in the Plan approximately 90 percent of state and federal formula funds that SANDAG has discretion over are used to match TransNet funds to complete voter-approved projects. The TransNet Ordinance assumes a 50 percent match in funds from other sources in order to complete the capital projects. In other words, in order to carry out the voter-approved list of projects included in the Ordinance, half of the funding in effect needs to come from other sources. Re-direction of these state and federal matching funds away from TransNet projects in order to advance this alternative’s transit and active transportation projects would create a financial hole in the TransNet program and force completion of some TransNet projects to occur beyond the horizon of the Ordinance (2048) and horizon of the Plan (2050).

Objective 6 to provide access to jobs and key destinations for all communities and Objective 7 to make transportation investments that reduce travel times for all trips would be met to a lesser extent because by 2050 average peak period travel time to work would be one minute (2 percent) longer for all modes, and would be one minute (1 percent) longer for carpoolers and one minute (2 percent) longer for people driving alone. Daily vehicle delay per capita would be one minute (10 percent) higher compared to the Plan. By 2050, average travel times would be longer to and from tribal lands (1.5 minutes or 6 percent) and the Tecate (7 minutes or 16 percent higher) port of entry with Mexico. Average travel times also would be longer to and from neighboring counties (three minutes or 5 percent higher) and to and from military bases and installations (1 minute or 2 percent higher).

Third, Alternative 5B is financially infeasible. Significant new funding would be required to implement and operate the accelerated capital program of Alternative 5B, which is estimated at approximately $42 billion by 2025. This would require approximately $38 billion in new capital funds within a 10-year period, approximately eight times more than the anticipated $4.8 billion in available revenue (see Chapter 3 of the Plan for discussion of available revenues). The cost to operate the transit facilities would expand from approximately $350 million annually in Fiscal Year 2015, to approximately $1.25 billion annually in Fiscal Year 2025. Total operating costs over the 35 year period (by 2050) would be nearly $59 billion, more than $24 billion more than anticipated available revenues of $34 billion for operations over that timeframe.

There are no additional reasonably available funding sources to cover these very large increases in transit capital costs and operating expenses. The majority of funds (some 71 percent, or about $145 billion) identified in the Plan are “pass through” funds that flow directly to local jurisdictions (cities and County) or other agencies (Caltrans and transit operators) over which SANDAG has no discretion or authority.

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Of the remaining funds (29 percent, or about $59 billion), there are constraints on when money becomes available during the life of the Plan, meaning that funding programs are typically approved or collected on an annual basis and therefore SANDAG cannot advance the spending of those funds. Furthermore, as explained in Chapter 3 of the Plan, the majority of funding sources are tied to certain types of projects or uses (e.g., transit infrastructure, transit operations, highway operations and maintenance) and SANDAG does not have the authority to interchange them. These funds must be used for specific purposes as determined by Congress or the state Legislature.

Fourth, this alternative is legally infeasible for several reasons. It does not reflect fiscal constraint under current and expected funding forecasts as required by state and federal transportation law because the amount of funds required would greatly exceed the anticipated available revenues (Government Code Section 65080(b)(4); 23 CFR 450.322(f)(10)(ii)). It is highly unlikely that future state and federal budgets and funding priorities would change to the extent needed to implement this alternative. Additionally, because it is not consistent with current local general plans, this alternative would conflict with SB 375 and Clean Air Act conformity requirements for the most recent planning assumptions to be used for RTPs and conformity determinations. (See Government Code Section 65080(b)(2)(B); 40 CFR 93.110). Further, SANDAG has no authority to require local governments to adopt local land use plans or approve local land use projects that will implement the SCS or a more intensified land use pattern. SB 375 specifically provides that nothing in SB 375 supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with an RTP/SCS. (Government Code §65080(b)(2)(j).

**Alternative 5C: Multiple Dense Cores/Advanced Revenue Unconstrained Transit + Highway General Purpose Lane Conversion + New Transit and Parking Policies (Multi Dense Cores + Trans Alt 5C)**

**Description**

This alternative would implement the Multiple Dense Cores land use pattern along with the transportation assumptions of Alternative 5A (EIR Figures 6.0-8 and 6.0-10). In addition, this alternative would implement the following public transit and parking policy changes by 2050. The intent of these policy changes is to reduce the Plan’s significant greenhouse gas and air quality impacts by attempting to reduce total vehicle miles traveled by substantially decreasing the cost of public transit fares and substantially increasing the price of parking. Frequencies were increased on specified transit routes to accommodate the increased ridership associated with the lower transit fares.

- **Transit fare reduction by 50 percent**
  
  Transit fare reductions are based on the assumption of an automated transit system with driverless vehicles. Reduced operating costs (through labor reductions) have the potential to lower operating costs by up to 50 percent.

- **Increased frequencies for 44 transit routes**
  
  SANDAG identified transit routes in Alternative 5B where ridership was at or near capacity of the vehicles. These routes were identified as routes where more ridership could be attracted if more vehicles (increased frequencies) were available and the increase in ridership would be expected to offset the increase in GHG and air pollutant emissions from additional transit vehicles.

- **Double parking prices (hourly, daily, monthly) for areas with a parking charge**
  
  Sensitivity testing of the transportation model by SANDAG indicates that increased parking costs in existing pay-to-park areas have measurable, but minimal impact, on regional VMT. Based on this background, SANDAG staff determined a 100 percent price increase to daily and monthly parking price in existing pay to park areas would be needed to show any measurable reduction in VMT.
Findings and Rationale

The SANDAG Board finds that specific economic, financial, legal, social, technological or other considerations make Alternative 5C infeasible and rejects this alternative for the reasons explained below:

First, Alternative 5C does not reduce any of the Plan’s significant impacts to less than significant levels. On-road CO2 emissions in 2050 would be about 2 percent lower compared to the Plan, and the increase in total VMT by 2050 would be about 11.0 million miles per year or 14 percent, compared to the Plan increase of 14.9 million miles per year or 19 percent. Daily VMT per capita would be about 1.1 miles or 5 percent lower under this alternative.

Second, Alternative 5C achieves some project objectives to a lesser extent than the Plan, making this alternative undesirable from a policy standpoint.

Alternative 5C would meet project objective 5—to use TransNet revenue as matching funds to maximize funding from non-TransNet sources—to a much lesser extent because in the Plan approximately 90 percent of state and federal formula funds that SANDAG has discretion over are used to match TransNet funds to complete voter-approved projects. The TransNet Ordinance assumes a 50 percent match in funds from other sources in order to complete the capital projects. In other words, in order to carry out the voter-approved list of projects included in the Ordinance, half of the funding in effect needs to come from other sources. Re-direction of these state and federal matching funds away from TransNet projects in order to advance this alternative’s transit and active transportation projects would create a financial hole in the TransNet program and force completion of some TransNet projects to occur beyond the horizon of the Ordinance (2048) and horizon of the Plan (2050).

Objective 6 to provide access to jobs and key destinations for all communities and Objective 7 to make transportation investments that reduce travel times for all trips would be met to a lesser extent because by 2050 average peak period travel time to work would be one minute (2 percent) longer for all modes, and would be one minute (1 percent) longer for carpoolers and one minute (2 percent) longer for people driving alone. Daily vehicle delay per capita would be one minute (10 percent) higher compared to the Plan. By 2050, average travel times would be longer to and from tribal lands (1.5 minutes or 6 percent). By 2050, average travel times would be longer to and from the San Ysidro (2 minutes or 11 percent) and Tecate (6 minutes or 14 percent higher) ports of entry with Mexico. Average travel times also would be longer to and from neighboring counties (three minutes or 5 percent higher) and to and from military bases and installations (1 minute or 2 percent higher).

Third, Alternative 5C is financially infeasible. Significant new funding would be required to implement and operate the accelerated capital program of Alternative 5C, which is estimated at approximately $42 billion by 2025. This would require approximately $38 billion in new capital funds within a 10-year period, approximately eight times more than the anticipated $ 4.8 billion in available revenue (see Chapter 3 of the Plan for discussion of available revenues). The cost to operate the transit facilities would expand from approximately $350 million annually in Fiscal Year 2015, to approximately $1.25 billion annually in Fiscal Year 2025, solely because of the accelerated capital program. Total operating costs over the 35 year period (by 2050) would be nearly $59 billion, more than $24 billion more than anticipated available revenues of $34 billion for operations over that timeframe, solely due to the accelerated capital program. Total operating costs of this alternative would be even higher due to the 50 percent transit fare reduction and increased service frequencies for 44 transit routes identified in this alternative.
There are no additional reasonably available funding sources to cover these very large increases in transit capital costs and operating expenses. The majority of funds (some 71 percent, or about $145 billion) identified in the Plan are “pass through” funds that flow directly to local jurisdictions (cities and County) or other agencies (Caltrans and transit operators) over which SANDAG has no discretion or authority. Of the remaining funds (29 percent, or about $59 billion), there are constraints on when money becomes available during the life of the Plan, meaning that funding programs are typically approved or collected on an annual basis and therefore SANDAG cannot advance the spending of those funds. Furthermore, as explained in Chapter 3 of the Plan, the majority of funding sources are tied to certain types of projects or uses (e.g., transit infrastructure, transit operations, highway operations and maintenance) and SANDAG does not have the authority to interchange them. These funds must be used for specific purposes as determined by Congress or the state Legislature.

Fourth, this alternative is legally infeasible for several reasons. It does not reflect fiscal constraint under current and expected funding forecasts as required by state and federal transportation law because the amount of funds required would greatly exceed the anticipated available revenues (Government Code Section 65080(b)(4); 23 CFR 450.322(f)(10)(ii)). It is highly unlikely that future state and federal budgets and funding priorities change to the extent needed to implement this alternative. Additionally, because it is not consistent with current local general plans, this alternative would conflict with SB 375 and Clean Air Act conformity requirements for the most recent planning assumptions to be used for RTPs and conformity determinations. (See Government Code Section 65080(b)(2)(B); 40 CFR 93.110). Further, SANDAG has no authority to require local governments to adopt local land use plans or approve local land use projects that will implement the SCS or a more intensified land use pattern. SB 375 specifically provides that nothing in SB 375 supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with an RTP/SCS. (Government Code §65080(b)(2)(J). SANDAG also has no authority to require local jurisdictions to make the parking pricing changes described in this alternative.

**Alternative 5D: Multiple Dense Cores + Advanced Revenue Unconstrained Transit + Highway General Purpose Lane Conversion + New Transit and Parking Policies + New Driving Fee (Multi Dense Cores + Trans Alt 5D)**

**Description**

This alternative would implement the Multiple Dense Cores land use pattern along with the transportation assumptions of Alternative 5D. In addition, this alternative would implement a policy change to substantially increase auto operating costs by approximately 50 percent by 2050 (e.g., a tax or fee on fuel consumption or vehicle miles traveled). The approximately 50 percent increase by 2050 would be in addition to the auto operating cost increase assumed for 2050 as part of the Plan. The intent of this policy change is to reduce the Plan’s significant greenhouse gas and air quality impacts by attempting to reduce total vehicle miles traveled by substantially increasing the cost of driving.

The 50 percent increase (13.7 cents per mile) in auto operating costs results in an auto operating cost of 42.6 cents per mile compared to the Plan 2050 costs of 28.9 cents per mile. In the sensitivity testing around auto operating costs, SANDAG identify the cause and effect relationship (elasticity) between auto operating cost and VMT. For every 1 percent increase in auto operating cost, the SANDAG model reduces VMT between 0.03 and 0.08 percent. These findings are consistent with the CARB SB 375 Policy Guidance white papers. SANDAG chose 50 percent as the maximum change that produces reliable results from the SANDAG model with the expectation that it would further lower VMT by at least 2 percent.

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8 Under the proposed Plan, auto operating costs are anticipated to increase from 19.8 cents per mile in 2012 to 28.9 cents per mile in 2050.

9 Available at: [http://arb.ca.gov/cc/sb375/policies/policies.htm](http://arb.ca.gov/cc/sb375/policies/policies.htm)
Findings and Rationale

Alternative 5D was identified as the environmentally superior alternative in the EIR, pursuant to CEQA Guidelines § 15126.6(e)(2). (See EIR Section 6.4.) However, the SANDAG Board finds that specific economic, financial, legal, social, technological or other considerations make Alternative 5D infeasible and rejects this alternative for the reasons explained below:

First, Alternative 5D does not reduce any of the Plan’s significant impacts to less than significant levels. On-road CO2 emissions in 2050 would be about 2 percent lower compared to the Plan, and the increase in total VMT by 2050 would be about 11.0 million miles per year or 14 percent, compared to the Plan increase of 14.9 million miles per year or 19 percent. Daily VMT per capita would be about 1.1 miles or 5 percent lower under this alternative.

Second, Alternative 5D achieves some project objectives to a lesser extent than the Plan, making this alternative undesirable from a policy standpoint. Objective 4 to provide transportation investments that protect public health and safety would be met to a lesser extent because compared to the Plan the annual rate of vehicle (driver/passenger) injury/fatal collisions would be 8 percent higher than under the Plan.

Alternative 5D would meet project objective 5--to use TransNet revenue as matching funds to maximize funding from non-TransNet sources--to a much lesser extent because in the Plan approximately 90 percent of state and federal formula funds that SANDAG has discretion over are used to match TransNet funds to complete voter-approved projects. The TransNet Ordinance assumes a 50 percent match in funds from other sources in order to complete the capital projects. In other words, in order to carry out the voter-approved list of projects included in the Ordinance, half of the funding in effect needs to come from other sources. Re-direction of these state and federal matching funds away from TransNet projects in order to advance this alternative’s transit and active transportation projects would create a financial hole in the TransNet program and force completion of some TransNet projects to occur beyond the horizon of the Ordinance (2048) and horizon of the Plan (2050).

Objective 6 to provide access to jobs and key destinations for all communities and Objective 7 to make transportation investments that reduce travel times for all trips would be met to a lesser extent because by 2050 average travel times would be longer to and from tribal lands (1.5 minutes or 6 percent), and average travel times would be longer to and from the San Ysidro (5 minutes or 28 percent), Otay Mesa east (2 minutes or 9 percent higher) and Tecate (2 minutes or 5 percent higher) ports of entry with Mexico. Average travel times also would be longer to and from neighboring counties (2 minutes or 3 percent higher) and to and from military bases and installations (1 minute or 2 percent higher).

Third, Alternative 5D is financially infeasible. Significant new funding would be required to implement and operate the accelerated capital program of Alternative 5D, which is estimated at approximately $42 billion by 2025. This would require approximately $38 billion in new capital funds within a 10-year period, approximately eight times more than the anticipated $ 4.8 billion in available revenue (see Chapter 3 of the Plan for discussion of available revenues). The cost to operate the transit facilities would expand from approximately $350 million annually in Fiscal Year 2015, to approximately $1.25 billion annually in Fiscal Year 2025, solely because of the accelerated capital program. Total operating costs over the 35 year period (by 2050) would be nearly $59 billion, more than $24 billion more than anticipated available revenues of $34 billion for operations over that timeframe, solely due to the accelerated capital program. Total operating costs of this alternative would be even higher due to the 50 percent transit fare reduction and increased service frequencies for 44 transit routes identified in this alternative.
There are no additional reasonably available funding sources to cover these very large increases in transit capital costs and operating expenses. The majority of funds (some 71 percent, or about $145 billion) identified in the Plan are “pass through” funds that flow directly to local jurisdictions (cities and County) or other agencies (Caltrans and transit operators) over which SANDAG has no discretion or authority. Of the remaining funds (29 percent, or about $59 billion), there are constraints on when money becomes available during the life of the Plan, meaning that funding programs are typically approved or collected on an annual basis and therefore SANDAG cannot advance the spending of those funds. Furthermore, as explained in Chapter 3 of the Plan, the majority of funding sources are tied to certain types of projects or uses (e.g., transit infrastructure, transit operations, highway operations and maintenance) and SANDAG does not have the authority to interchange them. These funds must be used for specific purposes as determined by Congress or the state Legislature.

Fourth, this alternative is legally infeasible for several reasons. It does not reflect fiscal constraint under current and expected funding forecasts as required by state and federal transportation law because the amount of funds required would greatly exceed the anticipated available revenues (Government Code Section 65080(b)(4); 23 CFR 450.322(f)(10)(iii)). It is highly unlikely that future state and federal budgets and funding priorities change to the extent needed to implement this alternative. Additionally, because it is not consistent with current local general plans, this alternative would conflict with SB 375 and Clean Air Act conformity requirements for the most recent planning assumptions to be used for RTPs and conformity determinations. (See Government Code Section 65080(b)(2)(B); 40 CFR 93.110). Further, SANDAG has no authority to require local governments to adopt local land use plans or approve local land use projects that will implement the SCS or a more intensified land use pattern. SB 375 specifically provides that nothing in SB 375 supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with an RTP/SCS. (Government Code §65080(b)(2)(J). SANDAG has no legal authority to require local jurisdictions to make the parking pricing changes described in this alternative. SANDAG also has no legal authority to implement road pricing policies such as a new or increased fee or tax on the purchase of fuel or per vehicle mile of travel, nor does SANDAG have authority to compel the State legislature to grant such authority to SANDAG.

D. ALTERNATIVES CONSIDERED IN EIR BUT REJECTED (SECTION 6.5)

This section discusses several alternatives that were considered by SANDAG decision makers or raised by the public during the Plan planning process or raised in public comments on the Notice of Preparation (NOP) for the EIR, but rejected from detailed consideration in this EIR. Many of these alternatives are similar to alternatives considered in detail in Section 6.2, or have their major components that have been incorporated into the alternatives considered in detail in Section 6.2. However, the following additional alternatives have been rejected from detailed consideration in this EIR. Reasons for rejecting these alternatives include:

- Major elements of the alternative are already included in the Plan or one of the alternatives evaluated in detail in this EIR.
- The alternative is infeasible due to economic, legal, or other considerations.
- The alternative fails to reduce any of the Plan’s significant environmental impacts.
- The alternative fails to meet most of the basic project objectives.
- The alternative is for individual project components rather than the project as a whole.
D.1 Draft Revenue Constrained Transportation Scenarios Presented to SANDAG Board of Directors (Scenarios 1 and 2)

At its August 15, 2014, meeting, the Board of Directors then discussed two draft Revenue Constrained Transportation Scenarios and reviewed the results of the performance measure and social equity analyses. Input on draft Scenarios 1 and 2 also was received from the public at two outreach workshops, SANDAG working groups, stakeholders, and the network of Community Based Organizations (CBOs).

The main themes of the two draft scenarios presented on August 1, 2014, to the Transportation and Regional Planning Committees were as follows:

- Scenario 1 emphasized strengthening existing transit corridors with “Express” services along the existing Blue and Orange Trolley Lines and early operational efficiency improvements of the SPRINT. The proposed approach for the Managed Lanes network was the phasing of two Managed Lanes along the Interstate 5 (I-5) and Interstate 805 (I-805) corridors early in the Plan by 2025.
- Scenario 2 emphasized the creation of a system of Rapid services. Complementing the network of 10-minute all-day (by 2035) high-frequency local bus services in key urban corridors included in both scenarios, the Rapid system would provide fast, limited stop service for passengers making longer distance trips within these corridors and facilitate access to rail and other services. As with Scenario 1, this scenario provided for new Trolley services in the more densely populated areas, but unlike Scenario 1, it would implement limited stop express bus services instead of “Express” Trolley service along the Blue and Orange Trolley Lines for passengers making longer distance trips. For Managed Lanes, Scenario 2 proposed the initial development of all four Managed Lanes projects for segments of I-5 and I-805 at one time, with those investments phased later in the Plan by 2035.

Both Scenarios 1 and 2 proposed the same Active Transportation Program as well as Emerging Technologies and Transportation Systems Management (TSM) Program. The Transportation Demand Management (TDM) Program proposed the same elements for both scenarios, with slight variations in the level of investment for the new elements of the program for each scenario.

At its August 15, 2014 meeting, the Board of Directors directed staff to develop a “blended” scenario for presentation at the September 12, 2014 Board meeting. The Transportation and Regional Planning Committees discussed the Blended Scenario at their September 5, 2014, meetings. The Blended Scenario, which is described in detail in Section 2.5 Project Characteristics, forms the basis for the transportation network improvements and programs included in the Plan.

Reasons for Rejection

Scenario 1 and Scenario 2 were rejected for detailed consideration as alternatives in the EIR because the major elements of these scenarios are included in the Plan and action alternatives evaluated in detail in the EIR. Also, these scenarios would not avoid or substantially lessen any of the Plan’s significant impacts. This conclusion is based on the fact that even Alternative 5D (which has a more concentrated land use pattern, more transit investments, more acceleration of transit investments, and more VMT-reducing measures) is unable to avoid or substantially lessen the Plan’s GHG, VMT, or other significant impacts. (See EIR Section 6.4.)
D.2 Healthy People and Economy Scenario (Scenario 3)

In letters dated July 30, 2014, and August 29, 2014, Circulate San Diego, the California-San Diego office of the American Lung Association, Community Health Improvement Partners, San Diego County Bicycle Coalition, American Cancer Society Cancer Action Network, Citizens Coordinate for Century 3, and Stay Cool for Grandkids, requested that SANDAG analyze a Healthy People and Economy Scenario (also referred to as a third scenario or Scenario 3) in addition to Scenarios 1 and 2 described previously. Among other comments (such as requests that certain models be used to evaluate all scenarios), the letters lay out the following elements of a Healthy People and Economy Scenario:

- Expanded Transit Opportunities
  - Include transit revenue from a sales tax ballot measure programmed for 2016 rather than postponing to 2020.
  - Don’t expand transit at the expense of existing transit operations and avoid transit projects that don’t support smart growth principles.
  - Model the full build-out of the unconstrained Transit network, before building out the future highway network in order to reveal the magnitude of benefits from a transit-first approach. Since SANDAG has already modeled theoretical Land Use Scenarios, we believe it is only prudent to do the same for transportation networks, in order to uncover ways we can maximize the health and prosperity of our region’s residents.
  - “Un-Grandfather” the list of TransNet highway projects included in the RTP (currently grandfathered due to passage four years prior to SB 375) in order for the highway network to truly reflect the significant changes of recently-adopted land use regulations, as well as local policy changes. This should prioritize investments in transit ahead of projects that expand capacity for single occupancy vehicles.
  - Maximize existing and new funding for local transit operations to achieve the highest transit level of service envisioned.
  - Prioritize capital funds that cannot be shifted or swapped to transit operations for maintenance of the existing transit system rather than capital expansion.
  - Prioritize transit operating assistance for those communities in which lower-income populations are concentrated, or for job centers which commit providing more lower-cost and/or affordable housing, with a goal of increasing transit operating funding substantially.
  - Consider converting select general purpose lanes to HOT lanes, and using the revenue for transit and vanpooling, before costly expansions are included.

- Active Transportation
  - Include the entire unconstrained Active Transportation network in the first decade of the plan.

- Public Health
  - Prioritize active transportation capital projects over freeway and roadway expansion, with a focus on improving public health and safety, especially in Communities of Concern

- Equity
  - Set aside a portion of TransNet Local Streets & Roads and other funds to reward local jurisdictions that accommodate – through zoning and financial support – a significant portion of the region’s lower-income/affordable housing need in Transit Priority Areas and Smart Growth Opportunity Areas.

- As an alternative to modeling a third scenario, these components could be included in one of the existing scenarios.
Reasons for Rejection

The Healthy People and Economy Scenario (Scenario 3) was rejected from detailed consideration in the EIR either because major elements are included in the action alternatives evaluated in detail in the EIR, because they would not avoid or substantially lessen the Plan’s significant impacts, and/or or because were determined to be infeasible. The reasons that various elements of the Healthy People and Economy Scenario were not included in the alternatives evaluated in detail in the EIR are explained below.

The alternatives considered in detail include removal of all new highway projects that expand general purpose lane capacity, except for the addition of two new general purpose lanes on SR 76 between South Mission Road and I-15. This project was not removed from any alternatives considered in detail because it is under construction as of November 2014.

The alternatives considered in detail do not prioritize capital funds that cannot be shifted or swapped to transit operations for maintenance of the existing transit system rather than capital expansion because an alternative with increased maintenance funding would not avoid or substantially lessen any significant environmental impacts of the Plan. Furthermore, this element is financially infeasible because as explained in Chapter 3 of the Plan, the majority of funding sources are tied to certain types of projects or uses (e.g., transit infrastructure, transit operations, highway operations and maintenance) and SANDAG does not have the authority to interchange them. These funds must be used for specific purposes as determined by Congress or the state Legislature.

The alternatives considered in detail do not prioritize transit operating assistance for communities in which lower-income populations are concentrated or for job centers which commit to providing more lower-cost and/or affordable housing. Prioritizing transit operating assistance for communities in which lower-income populations are concentrated would advance certain social goals, but would not avoid or substantially lessen the significant environmental impacts of the Plan.

The unconstrained active transportation network includes Safe Routes to Transit investments for existing transit stations that are not served by Rapid routes under the Plan, and bicycle and pedestrian improvements for highway interchanges that are not improved under the Plan. These are not included in the alternatives considered in detail because the benefits of these types of site-specific improvements to improve pedestrian and bicycling conditions (e.g., shorter pedestrian crossings, pavement markings, traffic calming) are difficult to quantify in the regional transportation model. However, the alternatives considered in detail include major transit capital and operations investments combined with more compact land use patterns, including closer proximity of jobs and housing units.

The alternatives considered in detail include two alternative land use patterns that accommodate a greater proportion of the region’s forecasted growth, including lower-income and affordable housing, in Transit Priority Areas and Smart Growth Opportunity Areas relative to the Plan. Therefore, an alternative that was to set aside a portion of TransNet Local Streets & Roads and other funds to reward local jurisdictions that accommodate – through zoning and financial support -- a significant portion of the region's lower-income/affordable housing need in Transit Priority Areas and Smart Growth Opportunity Areas would not further reduce impacts.
Lastly, this alternative was not considered in detail because it would not avoid or substantially lessen any of the Plan’s significant impacts. This conclusion is based on the fact that even Alternative 5D (which has a more concentrated land use pattern, more transit investments, more acceleration of transit investments, and more VMT-reducing measures) is unable to avoid or substantially lessen the Plan’s GHG, VMT, or other significant impacts. (See EIR Section 6.4.)

D.3 Accelerated Transportation Networks

On September 12, 2014, the Board of Directors accepted the Preferred Transportation Network for the Plan. As part of the action, the Board of Directors requested that staff evaluate the performance and estimate the cost of an accelerated transportation network (Accelerated Network). The Board of Directors’ request was based in part on public comments requesting analysis of a third scenario or Scenario 3 (also referred to as a Healthy People and Economy Scenario), in addition to Scenarios 1 and 2 described previously. The Accelerated Network would complete all of the public transit and active transportation projects in the Preferred Network within 10 years instead of the planned 35-year period. The purpose of the analysis was to inform future planning efforts and funding strategies.

Staff developed two accelerated networks: one that advances Managed Lanes that support transit (Accelerated Network A) and one that does not advance Managed Lanes that support transit (Accelerated Network B).

Reasons for Rejection

Accelerated Network A is considered in detail in the EIR as Alternative 2. Accelerated Network B was rejected for detailed consideration in the EIR because its major elements are included in alternatives evaluated in detail in this EIR. The component distinguishing Accelerated Network B from Network A is that Network B does not advance Managed Lanes that support transit. Alternatives 5A-D incorporate this component, and also do not advance Managed Lanes that support transit.

Also, this alternative was not considered in detail because it would not avoid or substantially lessen any of the Plan’s significant impacts. This conclusion is based on the fact that even Alternative 5D (which has a more concentrated land use pattern, more transit investments, more acceleration of transit investments, and more VMT-reducing measures) is unable to avoid or substantially lessen the Plan’s GHG, VMT, or other significant impacts. (See EIR Section 6.4.)

D.4 Circulate San Diego Alternatives

In a February 10, 2015, letter, Circulate San Diego, the American Lung Association, and San Diego Housing Federation, requested that the following elements be included in EIR alternatives analysis for the Plan:

- Changes to adopted land use plans such as alternative land use scenarios A, B, and C identified in a December 6, 2013, report presented to the SANDAG Board of Directors (SANDAG 2013).
- The Accelerated Network Scenario (described previously in Section 6.5.3) that advances the transit and active transportation projects of the Plan to the first 10 years, or a scenario that is as aggressive but is financially feasible to comply with the standards for a reasonable alternative, or a scenario that accelerates transit and active transportation investments to the first 12 or 15 years of the Plan instead of the first 10 years.
• Advancement of unconstrained revenue scenario transit and active transportation projects, including safe routes to transit projects, to the first 10 years of the Plan.
• Conversion of general purpose lanes to managed lanes to accommodate BRT, HOV, and solo drivers paying a fee.
• Delay of highway construction to later years of the Plan.
• Lower transit fares.
• Stored value payment systems for transit.
• Extended transit service to nightlife and entertainment outside of commute hours.

Reasons for Rejection

The alternative outlined in this letter was rejected from detailed consideration in the EIR because major elements of this alternative are included in the alternatives evaluated in detail in this EIR. However, several elements are not included in the alternatives evaluated in detail in this EIR, for the reasons explained below.

The alternatives considered in detail do not include alternative land use scenarios A or B, but they do include an alternative land use scenario based on Scenario C. Scenarios A and B were not included because previous analysis performed by SANDAG showed that they have similar or less potential to reduce GHG emissions relative to Scenario C (SANDAG 2013). Stored value payments systems for transit were not included because they would not avoid or substantially lessen the significant environmental impacts of the Plan. While the alternatives considered in detail do not specifically extend transit service to nightlife and entertainment outside of commute hours, they advance all-day transit service improvements to earlier years relative to the Plan, which includes but is not specifically limited to areas with nightlife or entertainment.

Also, this alternative was not considered in detail because it would not avoid or substantially lessen any of the Plan’s significant impacts. This conclusion is based on the fact that even Alternative 5D (which has a more concentrated land use pattern, more transit investments, more acceleration of transit investments, and more VMT-reducing measures) is unable to avoid or substantially lessen the Plan’s GHG, VMT, or other significant impacts. (See EIR Section 6.4.)

D.5 Transit-First Alternative

In a March 4, 2015, letter, the Environmental Health Coalition, City Heights Community Development Corporation, MAAC, and Cleveland National Forest Foundation, requested that SANDAG analyze a Transit-First Alternative in the EIR for the Plan. The letter asserts that a Transit-First Alternative would lead to reduction of air quality impacts (especially for sensitive receptors), VMT, and GHG emissions. Among the many topics addressed in the letter (such as criteria and benchmarks for evaluating EIR alternatives and comments on the analysis of GHG emissions and air quality impacts of the Plan) were the following components of a Transit-First Alternative:

• Delay freeway expansion: prioritize transit and active transportation projects over the next 10-15 year period and during the same time delay freeway expansion projects.
• Innovative Managed Lanes Approach: convert general purpose lanes in freeway corridors for HOV and BRT use; ensure overburdened communities have access to BRT routes on lanes that run through their communities.
• Prioritization: prioritize transit and active transportation investment in the most overburdened communities as identified by the CalEnviroScreen Model. Focus on specific transit corridors in the San Diego urban core (which includes the Trolley Ring and south to National City), COASTER, and SPRINTER.

• Unconstrained network projects: include transit and active transportation projects from the unconstrained network scenario project list.

Reasons for Rejection

The Transit-First Alternative was rejected from detailed consideration in the EIR because almost all major elements, included delay of highway and managed lane investments, elimination of highway and managed lane investments, accelerating transit and active transportation projects to the first 10 years of the Plan, converting general purpose lanes to managed lanes for carpooling and Rapid bus service, and including transit active transportation projects from the unconstrained revenue scenario project list, are included in the alternatives evaluated in detail in this EIR. However, the alternatives considered in detail do not prioritize transit and active transportation projects in specified communities based on the CalEnviroScreen Model because doing so would not avoid or substantially lessen the significant environmental impacts of the Plan.

In order to evaluate the availability of increased transit and active transportation investments to avoid or substantially lessen the significant impacts of the Plan, the alternatives considered in detail include major investments in transit capital and active transportation improvements and major transit operations improvements in a variety of communities, including communities identified by the CalEnviroScreen model but not restricted to only those communities.

Also, this alternative was not considered in detail because it would not avoid or substantially lessen any of the Plan’s significant impacts. This conclusion is based on the fact that even Alternative 5D (which has a more concentrated land use pattern, more transit investments, more acceleration of transit investments, and more VMT-reducing measures) is unable to avoid or substantially lessen the Plan’s GHG, VMT, or other significant impacts. (See EIR Section 6.4.)

D.6 Total VMT Reduction Alternative

This alternative would be based on a land use and transportation scenario that would be designed to reduce total vehicle miles traveled (VMT) below the 2012 level.

Reasons for Rejection

As described throughout Chapter 6.0, the action alternatives considered in detail in the EIR already include several major changes in transportation investments and other policy changes suggested by stakeholders specifically for the purpose of reducing total vehicle miles traveled. Even Alternative 5D, which has the most compact land use pattern and the most measures to reduce VMT, is unable to reduce total VMT to below 2012 levels. As explained above, Alternative 5D is infeasible (see Section VII C of these findings). This major road pricing policy change would likely need to be implemented by the State of California (VMT or fuel fee or tax), or require a major change in State legislation to allow implementation by regional or local agencies such as SANDAG, cities, or the County.
Implementing an alternative that reduces VMT below 2012 levels would also require the major changes in land use policies, parking policies, and transit funding mentioned for Alternative 5D. Also, this alternative is not legally feasible because it does not reflect fiscal constraint as required by state and federal transportation law (Government Code Section 65080(b)(4); 23 CFR 450.322(f)(10)(ii)). Although implementation of several of the alternatives considered in detail in Section 6.2 would also require significant changes in existing and expected future transportation funding patterns, the degree of changes required to implement this alternative would be considerably more drastic and are not considered likely under any foreseeable future funding scenario. Additionally, because it is not consistent with local general plans, unless these plans change, this alternative would conflict with SB 375 and Clean Air Act conformity requirements for the most recent planning assumptions to be used for RTPs and conformity determinations. (See Government Code Section 65080(b)(2)(B); 40 CFR 93.110)

For these reasons, an alternative that reduces VMT even slightly below 2012 is infeasible in light of the forecasted increase of nearly one million people in the region by 2050. Implementing an alternative that reduces VMT to below 2012 levels would require additional measures to reduce total VMT beyond those in Alternative 5D: even more compact development than the multiple dense cores scenario, further substantial increases in the cost of driving, and further substantial transit service improvements. Additional measures like these may ultimately be needed to reduce VMT, but currently are considered infeasible for several reasons, including the further changes needed in legislation and policy; lack of availability and allowable uses of funding for the transit service improvements; severe economic and social impacts to residents and businesses caused by substantial increases in driving costs; and lack of authority of SANDAG or local governments to implement these types of measures.

Public comments specifically suggested evaluating an alternative that “greatly reduces” VMT below baseline levels. Based on the above analysis, this alternative would be even more infeasible than one that only slightly reduces VMT below 2012 levels.

D.7 City of San Diego Alternative

In its comment letter provided in response to the NOP (see Appendix A, comment C-8), the City of San Diego requests analysis of at least one alternative that would avoid significant impacts to the City’s street and transit systems.

Reasons for Rejection

This alternative was rejected because it would not avoid or substantially lessen significant impacts of the Plan (the Plan would not have significant impacts to local streets or transit systems) or meet the following basic project objectives:

1. Focus population and employment growth in existing urbanized areas to protect sensitive habitat and natural resource areas.
2. Provide transportation investments that support compact land development patterns.
3. Meet GHG emissions targets for passenger cars and light-duty trucks.
4. Provide transportation investments and land use patterns that promote public health and safety.
5. Enhance the efficiency of the transportation network through the development of new technologies.
**D.8 Alternate Mixes of Transit Projects**

Public comments have suggested including alternate mixes of transit projects in the analysis of alternatives considered in detail.

**Reasons for Rejection**

The Constrained and Unconstrained Revenue Networks included in various EIR action alternatives include all known transit capital projects and transit operational improvements that would meet the mobility needs of forecasted regional population, housing, and job growth in the San Diego region. The alternatives considered in detail in the EIR include all transit projects from the Constrained and Unconstrained Revenue networks, and accelerate investments in all transit projects to the year 2025; the Plan has some transit investments occurring in 2035 and 2050. Alternatives 2 and 3 accelerate all Constrained Revenue transit capital and operational projects for completion by 2025. Alternatives 4 and 5A-D accelerate all Constrained and Unconstrained Revenue transit capital and operational projects for completion by 2025.

Alternatives in which there are other alternate mixes of transit projects were rejected from detailed consideration in the EIR because all known transit projects are already included in Alternatives 2, 3, 4 and 5A-5D, which also accelerate all transit investments to be completed by 2025. Any other mixes of transit projects would be permutations of the Constrained and Unconstrained transit projects in these alternatives, and would therefore have equal or less ability to reduce the Plan’s air quality, GHG, and other significant impacts. Similarly, alternative timing scenarios that go slower than completing all transit investments in 2025 would have equal or less ability to reduce the Plan’s air quality, GHG, and other significant impacts.

In addition, CEQA does not require that an EIR consider multiple variations of the alternatives that are considered in detail.

**VIII. FINDINGS REGARDING MITIGATION MEASURES AND ALTERNATIVES PROPOSED IN COMMENTS**

Some comments on the Draft EIR suggested additional mitigation measures and/or project alternatives. However, where the suggestions requested minor modifications or variations in adequate mitigation measures or alternatives or components of alternatives analyzed in the Draft EIR, or requested mitigation measures or alternatives that were too vague or speculative to be addressed, these requests were declined as unnecessary. The SANDAG Board of Directors adopts and incorporates by reference the specific reasons for declining such measures or alternatives contained in the responses to comments in the Final EIR as one ground for rejecting these measures.

Additionally, certain mitigation measures and alternatives suggested in comments could reduce impacts, but implementation of these mitigation measures and alternatives would be infeasible. The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the following mitigation measures or project alternatives identified in the final EIR, for the reasons explained below.

Further evidence and analysis supporting these findings on mitigation measures and alternatives suggested in Draft EIR comments is included in Final EIR Master Response 1 (alternatives), Master Response 5, (mitigation measures), and individual responses to comments.
A. SUGGESTED MITIGATION MEASURES

Parking Pricing

Environmental Health Coalition (e.g., comment 17-37), Sierra Club (e.g., comment 27-22, 27-29), Southwest Wetlands Interpretive Association (e.g., comment 32-39)

These and other comments suggest that SANDAG should develop a plan or implement measures to unbundle the cost of parking from other costs so that drivers pay directly for parking.

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.

First, this mitigation measure would not be effective in achieving substantial reductions in VMT or GHG emissions. The Draft EIR evaluates changing parking pricing policies as part of Alternatives 5C and 5D. These alternatives include doubling hourly, daily, and monthly parking prices for areas with a parking charge. As the Draft EIR (p. 6.0-25) notes, SANDAG modeling indicated that increased parking costs in existing pay-to-park areas have measurable, but minimal impact, on regional VMT. This is consistent with other recent modeling studies indicating parking pricing has a small impact on regional VMT.

Based on this background, SANDAG staff determined a 100 percent price increase to daily and monthly parking in existing pay to park areas would be needed to show any measurable reduction in VMT. The full suite of GHG-reducing measures included in Alternative 5D\(^{10}\) resulted in only a 6% reduction in on-road GHG emissions compared to the proposed Plan.

ARB research on the effectiveness of parking pricing found that, “modeling of parking pricing has indicated a smaller impact on regional VMT (ARB 2014a). A study of four California regions ... indicated regional VMT reductions of 2.3 to 2.9 percent were possible if solo commuters were charged $3.00 per day for workplace parking.” All of the studies were conducted in urbanized areas, so they may not be directly transferrable to a regional context. ARB also cautions that linking parking pricing to VMT can be problematic, “as drivers may attempt to avoid parking charges or select alternative destinations, especially for shopping trips.”

Second, this mitigation measure is legally infeasible because SANDAG has no legal authority to require local jurisdictions to make parking price changes or implement new parking price systems described in the comments. However, SANDAG has integrated certain parking pricing concepts into feasible mitigation measures that were included in the EIR. Mitigation Measure GHG-4A does encourage local parking strategies, including parking pricing, that reduce GHG emissions through revision of SANDAG grant program criteria. Further, Mitigation Measure GHG-4H includes parking pricing and other parking measures to reduce GHG emissions in the list of project-specific mitigation measures for development projects.

\(^{10}\) All revenue constrained/unconstrained transit and active transportation implemented by 2025; no new managed lanes; conversion of existing general purpose lanes to managed lanes; no highway investments; dense cores land use pattern; and new transit, parking pricing, and auto operating cost strategies.
Third, the comments discussed other approaches to increasing the cost of parking as possible mitigation measures, but these were minor variations on the pricing strategies evaluated in Alternatives 5C and 5D that are infeasible for the reasons stated above, and did not require separate evaluation under CEQA.

Road User Pricing

Sierra Club (e.g., comment 27-22)

This and other comments suggest SANDAG should implement a comprehensive road-usage charge pricing and payout system to unbundle the cost of operating roads.

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.

First, this mitigation measure would not be effective in achieving substantial reductions in VMT or GHG emissions. The EIR evaluates increasing auto operating costs, which is the basic objective of road user pricing, as part of Alternative 5D. As the EIR (p. 6-26) notes, SANDAG chose 50 percent as the maximum change that produces reliable VMT reduction results from the SANDAG model, with the expectation that it would further lower VMT by at least 2 percent. Alternative 5D increased user fees by 50 percent more than the increased fuel price assumed in the Plan. The full suite of GHG-reducing measures included in Alternative 5D resulted in only a 6% reduction in on-road GHG emissions compared to the proposed Plan.

Second, this mitigation measure is legally infeasible because SANDAG has no legal authority to implement road user pricing increases directly. SANDAG has no legal authority to implement road pricing policies such as a new or increased fee or tax on the purchase of fuel or per vehicle mile of travel, nor does SANDAG have authority to compel the State legislature to grant such authority to SANDAG.

Third, the comments discuss other potential approaches to increasing the cost of driving, but these were minor variations on the pricing strategies evaluated in Alternatives 5C and 5D that are infeasible for the reasons stated above, and did not require separate evaluation under CEQA.

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11 Most people need to make a minimum number of trips on a daily basis for employment, medical appointments, shopping, and the like. In areas without alternatives to driving, auto trips would still occur out of necessity. At a certain price point, most discretionary trips would cease, but mandatory trips would continue regardless of price. SANDAG knows of no recent or relevant study of a large scale road user program to compare model sensitivities. State DOTs only recently have begun testing road user fee pilot programs, but the findings are not directly transferrable to a regional analysis. ARB’s SB 375 policy papers concluded, “No operational distance charging programs for passenger cars currently exist. Therefore, evidence on effect size is available only from models and pilot programs.” (ARB 2014b)
Cap and Trade

Sierra Club (e.g., comments 27-22, 27-23)

This comment suggests that SANDAG should assume the State Cap and Trade program will be adjusted to ensure additional levels of driving reduction.

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.

This mitigation measure is legally infeasible because SANDAG has no legal authority to implement changes to the existing Cap and Trade program or to compel the State to make changes to the Cap and Trade program. Further, since reasonable estimates of GHG emissions reductions from Cap and Trade are already integrated into the GHG impact analysis, it was not appropriate to double-count these reductions as a GHG mitigation measure.

“Energy Net Zero” Buildings

Sierra Club (e.g., comment 27-31)

This comment suggests that SANDAG implement measures to support requiring new buildings to be “energy net zero.”

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.

This mitigation measure is legally infeasible because SANDAG has no authority to require local jurisdictions to require “energy net zero” or other building efficiency measures in new or existing buildings. However, SANDAG has integrated certain energy conservation measures for buildings into feasible mitigation measures that were included in the EIR. The state has a goal for all new residential buildings to be “zero net energy” by 2020 and all new commercial buildings to be “zero net energy” by 2030. These goals are accomplished through increasingly stringent energy codes for buildings. Mitigation Measure GHG-4H supports these state goals and includes measures to reduce energy consumption and increase renewable energy resources in the list of second-tier mitigation measures for development projects. These include measures to reduce net energy consumption from new development discussed in mitigation Measure EN-3B.

Adoption of Community Choice Energy District

Sierra Club (e.g., comment 27-31), Southwest Wetlands Interpretive Association (e.g., 32-50)

This comment suggests that SANDAG implement measures to support adopting Community Choice Energy Districts.
Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.

This mitigation measure is legally infeasible because SANDAG has no authority to require local jurisdictions to adopt Community Choice Energy Districts. However, SANDAG measures that encourage concepts such as Community Choice Energy District into feasible mitigation measures that were included in the EIR. Mitigation Measure GHG-4E includes a measure to assist local governments in preparing climate action plans and evaluating GHG reduction strategies, which could include the establishment of a Community Choice Energy District. Also, Mitigation Measures GHG-4H and EN-3B include measures to expand use of renewable energy resources, which mirrors the goal of establishing a Community Choice Energy District.

Eliminate Managed Lanes and Freeway Expansions

Environmental Health Coalition (e.g., comment 17-22), Sierra Club (e.g., comment 27-25), SD350 (e.g., comment 29-9), Transportation Justice Coalition (e.g., 34-3)

These comments state that SANDAG should not include any measures or investments in the Plan that increase highway or road capacity.

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.

First, this mitigation measure would not be effective in achieving substantial reductions in VMT or GHG emissions. Alternatives 5A, 5B, 5C, and 5D, eliminate managed lanes and highway investments. The full suite of GHG-reducing measures included in Alternative 5D resulted in only a 6% reduction in on-road GHG emissions compared to the proposed Plan.

Second, managed lanes are necessary to support the proposed Plan’s transit investments and make them successful, so eliminating them from the Plan would be inconsistent with the basic project objectives and undesirable from a policy standpoint. The revenue from managed lanes supports the cost of operating transit services in those corridors, and managed lanes are necessary to make the Plan’s Rapid bus services competitive with cars. Additionally, with the exception of a less than three mile stretch of State Route 11, the proposed Plan does not propose any new freeways. (SR 11 would serve the future Otay Mesa East port of entry and offer an alternative to the congested ports of entry at Otay Mesa and San Ysidro, benefiting the regional economy and the economy by reducing border-crossing wait times.) Highway improvements (including additional highway lanes and freeway connectors) complete the existing highway network and alleviate existing bottlenecks and account for only 6 percent of the proposed Plan’s total investments; eliminating highway improvements from the Plan would be inconsistent with the basic project objectives and undesirable from a policy standpoint.
Replace Signalized Intersections with Traffic Circles

Sierra Club (e.g., comment 27-72)

This comment suggests that SANDAG should allocate funding to replace signalized intersections with traffic circles.

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.

This mitigation measure is legally infeasible because SANDAG has no legal authority to require local jurisdictions to replace signalized intersections in their communities with traffic circles. However, traffic circles (roundabouts) are an example of transportation system management strategies, which are already included in the proposed Plan (see Chapter 3).

Also, traffic circles are small projects that alone would not substantially reduce regional GHG emissions. Studies report a wide range of results on the effectiveness of traffic circles in reducing GHG emissions, with some studies showing an actual increase in GHG emissions (ARB 2014c).

Reallocate More Highway Funds to Transit

Environmental Health Coalition (e.g., comment 17-44), Sierra Club (e.g., comment 27-22), Transportation Justice Coalition (e.g., 34-4)

These and other comments suggest that SANDAG re-allocate funding from managed lanes and highway investments to transit.

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.

This mitigation measure is financially infeasible. Federal law requires SANDAG to develop a regional plan built on reasonable assumptions of the revenues that will be available during the time period covered by that plan. A majority of the funding sources are tied to certain types of projects (for example, highway operations and maintenance) and SANDAG does not have the authority to interchange them. These constraints come with specific provisions from Congress or the state Legislature.

The majority of funds (some 71 percent, or about $145 billion) identified in the Plan are “pass through” funds that flow directly to local jurisdictions (cities and County) or other agencies (Caltrans and transit operators) over which SANDAG has no discretion or authority. Of the remaining funds (29 percent, or about $59 billion), there are constraints on when money becomes available during the life of the Plan, meaning that funding programs are typically approved or collected on an annual basis and therefore SANDAG cannot advance the spending of those funds. Furthermore, as explained in Chapter 3 of the Plan, the majority of funding sources are tied to certain types of projects or uses (e.g., transit infrastructure, transit operations, highway operations and maintenance) and SANDAG does not have the authority to interchange them. These funds must be used for specific purposes as determined by Congress or the state Legislature.
“Good” Bicycle Projects and Bicycle Traffic Skills Education

Sierra Club (e.g., comments 27-28; 27-71)

This comment suggests that SANDAG should implement good bicycle projects and heavily subsidize the League of American Bicyclists’ Traffic Skills 101 class.

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.

First, the proposed Plan’s active transportation investments already promote “good bicycle” projects and bicycle skills education. The Regional Plan’s Active Transportation Network includes all projects found in the Regional Bike Plan (which includes more than 500 miles of bicycle routes), as well as bicycle improvements in and around highway and freeway interchanges, and various educational programs, including bicycle safety education. Also, Mitigation Measure GHG-4H includes measures to increase bicycle facilities and their use in the list of project-specific mitigation measures for development projects.

Second, bicycle facilities alone would not substantially reduce regional VMT or GHG emissions; no studies have been identified that provide direct evidence of the impact of bicycling strategies on reducing GHG emissions (ARB 2014d). While the bicycle facilities will not alone substantially reduce GHG emissions, the key word here is alone. The Regional Plan is based on the concept of creating a wide range of transportation choices, including increased transit services, carpooling/vanpooling, biking and walking with no modes acting alone or attempting to provide the only mobility solution. In many cases, the specific projects included in the Regional Plan are aimed at accommodating multiple travel modes. For example, a new trolley line, such as Route 562 from San Ysidro to Kearny Mesa, would include the development of “mobility hubs” that enable a wide range of options for accessing station sites such as bike lockers, carshare and bike share services, and shuttle services. These Mobility Hubs utilize and leverage the bicycle mode to create more transit trips and vice versa, all while getting more people out of their cars. And the planning of those transit trips on Managed Lanes facilities provides priority access for Rapid transit services and carpool/vanpooling, giving users a congestion-free bypass of congested main lanes, many of those trips originating on bike.

Higher Density Development near Transit Stops

Ad-Hoc Public Health Stakeholders Working Group (e.g., comment 1-1), San Diego Air Pollution Control District (e.g., comment 25-1)

These and other comments suggest that SANDAG should take actions that result in higher density development near transit in the region’s existing urbanized areas.

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.
First, this mitigation measure is legally infeasible because SANDAG has no authority to require local governments to adopt local land use plans or approve local land use projects that will implement the SCS or even higher density development near transit stops. SB 375 specifically provides that nothing in SB 375 supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with an RTP/SCS. (Government Code §65080(b)(2)(J).

Second, the Plan already recognizes the need for and encourages higher density development near transit. The Plan (Chapter 2) recognizes that the region has made great strides in planning for more compact, higher density, and walkable developments situated near transit and in the incorporated areas of the region. The SCS land use pattern accommodates 79 percent of all housing and 86 percent of all jobs within the portion of the region covered by the Urban Area Transit Strategy (UATS), where the greatest investments in public transit are focused. Also, the Plan includes SANDAG’s Smart Growth Concept Map, which serves as a tool to focus future growth and development closer to areas with existing and planned transit.

Also, as the Plan (Chapter 2) notes, today about a third of the region lives within a half mile of high-frequency public transit. By 2050, the Plan projects that number to increase to more than 60 percent, which is attributable to local planning for more housing near transit stations and to investments in more high frequency transit routes closer to existing and future housing.

The Plan (Chapter 2 and Appendix U.4) also includes a Regional Transit Oriented Development (TOD) Strategy. The strategy focuses on identifying tools, techniques, and actions for implementing and prioritizing transit oriented development in the areas identified on the Smart Growth Concept Map. Implementing the Regional TOD Strategy will be an important step toward implementing higher density near transit stops.

Third, higher density near transit stops alone would achieve substantial reductions in VMT or GHG emissions. The EIR includes progressively higher levels of higher density development near transit stops in the smart growth area intensification land pattern in Alternative 4, and in the dense cores land use pattern in Alternatives 5B, 5C, and 5D. Although the effectiveness of higher density near transit stops in reducing GHG emissions was not separately modeled, the full suite of GHG-reducing measures included in Alternative 5D resulted in only a 6% reduction in on-road GHG emissions compared to the proposed Plan.

*Increase the TransNet exaction fee for new development*

Samantha Ollinger, BikeSD, Comment 23-3

This comment suggests that SANDAG increase the existing development exaction fee of $2,000 per housing unit from the private sector to address the full operational and maintenance costs of the Regional Arterial System to both be consistent with the plans goals to reduce VMT and induce development within Transit-oriented Development (TOD) areas.

**Findings and Rationale**

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.
This comment is understood to refer the new development exaction fee described in the TransNet Extension Ordinance (Section 9. Regional Transportation Congestion Improvement Program). Section 9A of the Ordinance specifies that each local agency in the San Diego region shall contribute $2,000 (adjusted annually for inflation) in exactions from the private sector for each newly constructed residential housing unit in that jurisdiction to the Regional Transportation Congestion Improvement Program (RTCIP). These exactions ensure future development contributes its proportional share of the funding needed to pay for the Regional Arterial System and related regional transportation facility improvements as defined in SANDAG’s most recent adopted Regional Transportation Plan. Each local agency establishes an impact fee or other revenue Funding Program by which it collects and funds its contribution to the RTCIP. Each local agency is responsible for establishing a procedure for providing its monetary contribution to the RTCIP. The RTCIP revenue is used to construct improvements on the Regional Arterial System such as new or widened arterials, traffic signal coordination and other traffic improvements, freeway interchange and related freeway improvements, railroad grade separations, and improvements required for regional express bus and rail transit. While overseen by SANDAG, the RTCIP is implemented by each local agency.

This mitigation measure is legally infeasible. As specified in Section 16 of the Ordinance, Section 9, which includes the development exaction fee, cannot be amended without voter approval. Therefore, this suggested mitigation measure is infeasible for the SANDAG Board of Directors to implement.

Also, the suggested increase in the fee is not tied to any specific measures that would avoid or substantially lessen any of the Plan’s significant impacts.

**Electrify the COASTER/SPRINTER rail services**

*Sierra Club (e.g., comment 27-26, 27-57)*.

These comments state that SANDAG failed to identify COASTER and SPRINTER electrification as mitigation measures.

**Findings and Rationale**

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the mitigation measure suggested above.

First, electrifying COASTER and SPRINTER alone would not substantially reduce projected regional GHG emissions. Emissions from passenger and freight rail together account for 0.3 percent of total regional GHG emissions in 2012, and an estimated 1 percent in 2050. These future projections do not account for USEPA emissions regulations that will apply to new locomotives purchased over the life of the proposed Plan. As of 2015, all new locomotives purchased must meet USEPA Tier 4 emissions regulations which dramatically reduce emissions from diesel locomotives. Amtrak Pacific Surfliner Trains will receive delivery of these new Tier 4 locomotives in 2017. Over the life of the plan, all locomotives and SPRINTER vehicles will be replaced with low emission locomotives. Given that existing regulations are already in place to substantially reduce emissions from diesel locomotives, and that electrifying COASTER and SPRINTER are single projects, electrifying COASTER and SPRINTER alone would not substantially reduce projected regional GHG emissions.
Second, electrifying COASTER and SPRINTER is legally infeasible for SANDAG to implement, and also is logistically infeasible. Electrification along the LOSSAN and SPRINTER corridors would be logistically infeasible due to the mixed operations between COASTER, SPRINTER, Amtrak, Metrolink, and BNSF Freight. Amtrak, Metrolink, and BNSF Freight trains travel well beyond the SANDAG region and will rely on conventional non-electrified diesel locomotives for the foreseeable future.

Third, this mitigation measure is undesirable from a policy standpoint. Electrification along the sensitive coastal LOSSAN corridor would also be inconsistent with the coastal communities’ plans due to the overhead catenary wires that would adversely impact coastal views and require the reconstruction or removal of many railway overcrossings in order to provide the necessary clearance for overhead catenary wires. Also, rights-of-way in the coastal area are generally not available for the electrical substations and transmission lines that would be required.

B. SUGGESTED PROJECT ALTERNATIVES

The EIR evaluated a reasonable range of alternatives to the Plan. The range of eight alternatives evaluated in detail in Chapter 6 of the EIR is in large part based on public and stakeholder requests to avoid or substantially lessen GHG emissions and air quality impacts by reducing total VMT. The alternatives selected for detailed consideration incorporate many of the major transportation investments and policy options that commenters suggested would lead to major reductions in VMT, including but not limited to:

- Advancing public transit (capital and operations) and active transportation investments to 2025 (the first 10 years of the Plan)
- Including investments from the unconstrained transit network (e.g., investments for which available funding was not identified in the Plan)
- Delaying and eliminating general purpose highway and managed lane investments
- Converting existing general purpose lanes to managed lanes
- Providing more compact land use patterns
- Substantially lowering transit fares
- Substantially increasing the price of parking
- Substantially increasing the cost of driving.

When considering whether the range of alternatives evaluated in the EIR is adequate, several principles apply. The “discussion of alternatives need not be exhaustive,” and the requirement to discuss alternatives is “subject to a construction of reasonableness.” (Residents Ad Hoc Stadium Committee v. Board of Trustees (1979) 89 Cal.App. 3d 274, 286.) “An EIR need not consider every conceivable alternative to a project.” (CEQA Guidelines §15126.6(a).)

Under CEQA, absolute perfection is not the standard governing a lead agency’s proposed range of project alternatives. Rather, in preparing an EIR, a lead agency need only make an objective, good faith effort to provide information permitting a reasonable choice of alternatives that would feasibly attain most of the basic objectives of the project, while avoiding or substantially lessening the project’s significant adverse environmental impacts. (California Oak Foundation v. Regents of University of California (2010) 188 Cal.App. 4th 227, 275-276.)
**Complete the Trolley System and then Replace it with a Bus Rapid Transit System**

Comment 8-2 suggests that SANDAG consider a higher performing transit alternative, without slow, expensive trollies that require transfers to get to most places in the region. It suggests that the trolley system should be completed and in the long run, converted off of rails and into a bus-rapid transit system.

**Findings and Rationale**

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the alternative suggested above.

First, completing all of the Plan’s trolley investments and then removing the region’s entire Trolley system and replacing it with a bus rapid transit system would not avoid or lessen the Plan’s significant impacts. Second, physical impacts to the environment would be higher for several resource topics because of the additional construction activity associated with completing all of the Trolley investments, and then construction required to remove all of those investments and remove the entire existing Trolley system and replace it with a bus rapid transit system.

Third, this alternative is financially infeasible. In addition, there is not enough funding available within the horizon of the Plan to both complete the Plan’s trolley investments and then replace the entire trolley system with a new bus rapid transit system.

**More Feasible Transit-Friendly Alternative**

Circulate San Diego (e.g., comment 10-29) suggests that the Draft EIR should have evaluated a “transit-friendly” alternative that is more financially feasible, takes a “more moderate” approach to accelerating transit projects, but would still reduce vehicle trips and GHG emissions. Such an alternative would essentially amount to a variation to the transit project phasing of Alternative 2 that accelerates some, but not all, constrained transit projects to the first ten years of the Plan, with other transit projects accelerated less rapidly.

**Findings and Rationale**

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the alternative suggested above.

This alternative is a variation to the transit project phasing of Alternative 2. As demonstrated by modeling conducted for the Final EIR, this type of alternative would not substantially lessen the proposed Plan’s transportation, GHG, or other significant impacts. In response to Circulate San Diego’s request, SANDAG modeled a more moderate “transit friendly” alternative that advances certain proposed Plan transit investments to 2025 and delays certain highway and managed lane investments until after 2025:

- Advances the following proposed Plan transit investments to 2025:
  - Trolley Route 562 (Phases I and II)
  - Blue Line Frequency Enhancements
  - Orange Line Frequency Enhancements
  - Rapid Route 550
  - Del Mar Fairgrounds Station Platform for COASTER passenger rail service on the LOSSAN Corridor
Delays the following proposed Plan highway and managed lane investments until after 2025:
- Two highway general purpose lanes on an approximately 3 mile segment of SR 67 (Mapleview to Gold Bar Ln). These are the only general purpose lane highway investments in the Plan in 2025 or sooner.
- Two managed lanes on SR 78 from I-15 to I-5
- Two managed lanes on SR 94 from 5 to 805
- Two managed lanes on I-5 from La Jolla Village Drive to I-805
- Two managed lanes on I-5 from SR 78 to Vandegrift Blvd
- Two managed lanes on I-15 from I-8 to SR 163
- Two managed lanes on I-805 from SR 94 to SR 15
- Managed lane connectors: I-5 and SR 78; I-5 and I-805; I-15 and SR 78; I-15 and I-805; I-805 and SR 94;
- Freeway connectors: I-5 and SR 78; SR 94 and SR 125

This scenario was modeled using the same performance measures and EIR metrics used to evaluate the proposed Plan. This scenario demonstrates similar performance in 2025 to the proposed Plan, and would not substantially lessen any of the proposed Plan’s significant impacts. Below are results for select performance measures for 2025 related to VMT, GHG emissions, and transit use (Table 1-1). (Modeling was not done for 2035 or 2050 because the scenario suggested by Circulate Scenario was specifically focused on accelerating certain projects to 2025).

<table>
<thead>
<tr>
<th>Performance measure</th>
<th>2012</th>
<th>Proposed Plan</th>
<th>“Transit Friendly” Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily VMT per capita (miles/person/day)</td>
<td>25.2</td>
<td>24.2</td>
<td>24.0</td>
</tr>
<tr>
<td>Total annual VMT (miles/year)</td>
<td>79,300,000</td>
<td>87,100,000</td>
<td>86,600,000</td>
</tr>
<tr>
<td>On-road CO2 emissions (tons/day)</td>
<td>41,200</td>
<td>31,300</td>
<td>31,200</td>
</tr>
<tr>
<td>Total regional GHG emissions (MMTCO2e)</td>
<td>34.67</td>
<td>26.58</td>
<td>26.53</td>
</tr>
<tr>
<td>Transit mode share</td>
<td>1.9%</td>
<td>2.5%</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015.

As the modeling of this alternative, as well as modeling of the other EIR alternatives demonstrates, accelerated or increased transit investments alone cannot achieve substantial reductions in total VMT or GHG emissions. Generally, research conducted for the ARB indicates that increases in transit ridership do not directly translate into decreases in driving, since not all new transit trips replace driving. In addition, the low market share for transit in many regions means that even significant increases in transit ridership may translate into a small decrease in total driving (ARB 2013).
**San Diego Quickway Proposal**

Comments (e.g., 8-2, 32-34) suggest that the Plan should have evaluated an integrated transit proposal as “Quickway” because it may be a useful tool to help transition from bus rapid transit to rail transit. A Summary of the Quickway Proposal (Move SD 2014) is as follows:

“The Quickway Proposal is distinguished by its emphasis on creating a regional network of integrated services that make it easier and faster to move by transit throughout the region. At the heart of the plan is the MetroXpress system: a network of regional express routes that operate partially on dedicated rights of way, partially on roads, that is designed to reduce the number of transfers as well as the travel time of many transit trips. Underlying the MetroXpress is an expansion of the San Diego Trolley network, with its “pearls on a string” network concept (i.e., stations are spaced approximately a mile apart, and all vehicles stop at all stations along a route) using BRT (Bus Rapid Transit) vehicles operating nearly entirely within dedicated rights of way (which are shared with the MetroXpress network). Streetcar services are reintroduced to the region. Local bus routes still fill the gaps and reach into many neighborhoods, and the Coaster Commuter Train is maintained in the Plan. Finally, a new service, the Fun’n’n’Sun Line, is introduced; it is a special bus route, operating partly in dedicated right of way, that ties together the region’s principle tourism sites.”

**Findings and Rationale**

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the alternative suggested above.

First, the Quickway proposal is not a comprehensive alternative, but rather a modification to the transit component of the proposed Plan. Both concepts accomplish the same goals of higher speed and frequent service on transit networks that include rail and bus rapid transit services. The key difference is that bus rapid transit services in the proposed Plan use freeway Managed Lanes and arterial transit priority measures to achieve higher travel speeds and trip reliability, while the Quickway proposal uses an extensive level of dedicated guideways, tunnels, and grade separations. The Quickway proposal would also not substantially lessen the proposed Plan’s transportation (total VMT), GHG, or other significant impact given the similarity in transit network connectivity.

Second, this alternative is financially infeasible. Given the extensive level of the capital infrastructure elements, SANDAG’s experience with major capital projects indicates that the capital costs would exceed the revenue available.

**50-10 Transit Plan**

Similarly, comments (e.g., 28-6, 32-34) suggest that the Plan should have evaluated the 50-10 Transit Plan (CNFF 2011). Under the 50-10 plan, 50 years of transit improvements would be implemented over the next decade. The plan calls for halting “any” highway construction until the transit system is fully functional. An equally critical element of the plan calls for modification of the TransNet program to re-prioritize transit over highway projects. (See Executive Summary, page 1.)
Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the alternative suggested above.

First, the 50-10 Transit Plan is not a comprehensive alternative, but rather a modification to the accelerated transit component already included in each of the action alternatives (Alternatives 2, 3, 4, and 5A through 5D; Also, the delays in highway investments it envisions are similar to those included in Alternatives 3, 4, and 5A through 5D. These components of the 50-10 Transit Plan are infeasible for the same reasons that Alternatives 2, 3, 4, and 5A through 5D are infeasible.

Second, the 50-10 Transit Plan would not substantially lessen the Plan’s transportation, GHG, or other significant impacts. Alternative 5D, which moves 50 years of transit projects into the first ten years of the Plan (coupled with further land use and transportation measures intended to reduce VMT and GHG emissions), still does not reduce Plan impacts to less than significant levels.

**Modified Alternative 5D (“Community Supported Alternative”)**

Comments (e.g., 17-45 to 17-58, 34-3) suggest numerous modifications to Alternative 5D “to most accurately reflect the principles of transportation justice.” Categories of modifications are as follows:

**Increase transit efficiency and affordability**

- Implement 10-minute all-day frequencies for Urban Core local bus routes and expand bus service for early morning and late night commuters by 2025.
- Increase frequency of transit on the 44 routes where ridership was at or near capacity of the vehicles.
- If housing and transportation cost burden exceeds 45% of household income, adults will be eligible for transit access assistance through subsidized or free transit passes depending upon need.17
- No cost transit passes for the youth of families at or below the regional median income level.

**Prioritization of transit projects in overburdened communities**

- Complete all (constrained and unconstrained) public transit capital projects and public transit operations improvements first by 2025 that are located within the most overburdened communities in our region.
- For example, the type of transit projects in these prioritized communities to be completed by 2025 include the following:
  - SR 15 to SR 94 (Centerline Rapid 235) Transit-Only Connector (Phasing 2035);
  - 54th Street BRT (Phasing 2035);
  - Purple Line Trolley (Phasing 2035);
  - Orange Line Frequency Enhancements Grade Separation (Phasing 2035);
  - Blue Line Frequency Enhancements Grade Separation (Phasing 2050); and
  - Double Tracking of Blue Line and Orange Line (unconstrained network).
Safe streets for all

- Complete all retrofits for safe routes to new and existing transit, prioritizing infrastructure in overburdened communities by 2025 (retrofits for safe routes to existing transit only in unconstrained network).
- Complete all Active Transportation Retrofits for Bicycle/Pedestrian Improvements at Freeway Interchanges by 2025, prioritizing overburdened communities first (unconstrained network).
- Expand and implement safe routes to school with emphasis on increasing walk and bike mode share to school to 10% by 2021, prioritizing infrastructure in overburdened communities first.
- Complete all active transportation projects in the proposed Plan by 2021, prioritizing infrastructure in overburdened communities first.

Innovative freeway strategies

- Eliminate the proposed Plan’s investments in highways that adds general purpose lanes and managed lanes, but instead allow for basic operational improvements.
- Do not add lanes for HOV/Rapid bus use. Instead convert existing general purpose lanes to managed lanes to accommodate Rapid routes and HOV that would operate in new Managed Lanes under the proposed Plan.
- Usage of existing right-of-way for transit only lanes.

For example, innovative community supported strategies for the SR 94 include the following:

- Innovative Community-Supported Alternative 1- Convert an existing general purpose lane on the MLK, Jr. Freeway (SR-94) for High Occupancy Vehicles (HOV) and transit use.
- Innovative Community-Supported Alternative 2- Install transit only lanes using the existing right-of-way (shoulder and/or median).
- Regional & Local Transit- In both preferred alternatives improve regional and local transit options by providing transit access to the CenterLine and South Bay Rapid with a transit station in the impacted community along the MLK, Jr. Freeway (SR-94). Additionally, in both preferred alternatives, uphold the promise of the transit-only connection from the SR-15 to the MLK, Jr. Freeway (SR-94) for the CenterLine Rapid 235.
- Complete Corridor- In both preferred alternatives, increase the funding of bike and pedestrian infrastructure along the MLK, Jr. Freeway (SR-94) project corridor and fixing the dangerous SR-94 freeway off-ramps/on-ramps to create a Complete Corridor.

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the alternative suggested above.

The alternative is infeasible because it is variation of the action alternatives evaluated in the EIR and determined to be infeasible. Further, this alternative, like the action alternatives evaluated in the EIR, it would not substantially lessen the Plan’s transportation, GHG, or other significant environmental impacts. (See Section VIIC of these Findings.)
As discussed in Final EIR responses to comments 17-49 to 17-58, the strategies in this alternative either are already included in the action alternatives or represent variations in the location or timing of the transportation network improvements already included in the action alternatives. The transit efficiency components of a community-supported alternative are included in Alternative 5D, including 10 minute all-day bus service in urban areas, all active transportation projects, further increases in transit service frequency, and conversion of general purpose lanes to managed lanes to accommodate Rapid bus routes. All seven action alternatives considered in detail in the EIR advance urban core bus route 10-minute all-day frequency improvements to 2025 (see Table 6.0-2, footnote 1). Alternatives 5C and 5D include the increased frequencies on 44 transit routes mentioned in this comment and reduce transit fares by 50 percent. Regarding prioritization of transit projects, each of these transit projects is advanced to 2025 in one or more of the seven action alternatives considered in detail in the EIR.

EIR action alternatives 5A through 5D eliminate the Plan’s investments in managed lanes and highway general purpose lanes and convert existing highway general purpose lanes to managed lanes to accommodate Rapid bus routes and high occupancy vehicles as suggested by this comment. The EIR action alternatives do not include transit only lanes because the alternatives already include the elimination of managed lanes and conversion of existing highway general purpose lanes to managed lanes to accommodate Rapid bus routes. Similar to managed lanes, transit only lanes benefit Rapid bus routes by allowing them to bypass traffic congestion in general purpose travel lanes. EIR action alternatives 5A through 5D eliminate the Plan’s investments in managed lanes on SR 94 from SR 15 to I-5 and convert existing highway general purpose lanes to managed lanes as suggested by this alternative. The EIR action alternatives do not include a transit station within the center of SR 94 and localized improvements to bicycle and pedestrian safety because these are minor variations of SR 94 improvements already included in Alternatives 5A-5D. The EIR action alternatives already include the Rapid route 235 and advancement of all regional active transportation projects to 2025, and CEQA does not require that an EIR consider multiple variations of the alternatives considered in detail.

Also, some of the transit strategies in this alternative are already included in the Plan. The Plan already proposes the 54th Street BRT (also known as Rapid Route 550) for implementation by 2025. The Trolley orange and blue lines are already double tracked in the existing condition. Regarding the components cited under safe streets for all, the Plan includes funding for active transportation improvements as part of all of the Plan’s highway and freeway interchange projects and funding for safe routes to transit improvements for all of the Plan’s new transit stations. Retrofit active transportation improvement projects surrounding existing highway on- or off-ramps will be considered for implementation as part of future operations and maintenance projects using State Highway Operations and Preservation Program (SHOPP) dollars. As explained in proposed Plan Appendix E, the proposed Plan’s mobility hub implementation strategy will explore opportunities to implement safe routes to transit projects at existing transit stations as part of mobility hub implementation. The proposed Plan also includes full build-out of the entire regional bike network.

One category of suggested modifications not included in the EIR alternatives was to prioritize transit projects in overburdened communities. This category was not included because, although prioritizing transit investments in overburdened communities may advance certain social goals, it would not substantially lessen the significant environmental impacts of the Plan. Transit projects included in the alternatives were selected for their potential to increase overall transit utilization as an alternative to other forms of transportation, and thus reduce environmental impacts. By making investments in lower-income and minority communities as well as other communities, the Regional Plan gives everyone an opportunity to participate in the economy, which benefits all of the region’s communities.
Alternative that Substantially Reduces VMT below Existing Levels

Comments (e.g., 10-12, 17-59, 34-5) suggest the Draft EIR should have evaluated a financially feasible project alternative that substantially reduces VMT below existing levels.

Findings and Rationale

The SANDAG Board of Directors finds that specific economic, legal, social, technological, or other considerations make infeasible the alternative suggested above.

Alternative 5D (the environmentally superior alternative) does achieve some reductions in the Plan’s VMT (nine percent, EIR, p. 6-27). Alternative 5D would already require major changes in state road pricing policy, land use policies, parking policies, and transit funding, and is infeasible for the reasons stated in Section VIIIC of these Findings. An alternative that further reduces total VMT, e.g., slightly below 2012 levels, would require even greater compact development, driving cost increases, and transit service improvements than Alternative 5D, making it even more infeasible. (See Section VIID.6 of these Findings.) An alternative including these further VMT-reduction measures is not currently feasible for several reasons, including:

- Further substantial changes that would be needed in policy and legislation. These would include still further changes in state road pricing policy, land use policies, and parking policies that are not reasonably foreseeable.
- Lack of funding for further transit service improvements.
- Severe economic and social impacts caused by substantial increases in driving costs. Alternative 5D raises fuel costs by nearly 50 percent per mile from $0.289 / mi to $0.426 / mi. Parking prices double as well. From a consumer standpoint, in the short-term fuel is often a trade-off with discretionary expendable income for purchasing food, clothing, and other personal items. A significant increase in fuel cost would result in lower spending in other areas of the economy, and economic disruption would occur in adjusting to higher fuel prices.
- Lack of authority for SANDAG and local governments to implement such measures. For example, SANDAG has no authority to increase state road pricing, or require local governments to implement land use or parking policies. Local governments have no authority to increase state road pricing or substantially increase transit funding. SANDAG’s inability to control the total regional population growth that causes total VMT increases.

To achieve even greater reductions in VMT substantially below 2012 levels would be even more infeasible, based on the above factors as well as the infeasibility of VMT-reducing scenarios evaluated by the Draft California Transportation Plan (DOT 2015). (See EIR, page 4.8-38.) These scenarios included currently infeasible measures such as a 75% increase in auto operating cost, and major transit service improvements consisting of doubling all transit services, doubling transit speeds, free transfers, reduced transfer wait times, and high speed rail fares reduced by 50 percent.

IX. FINDINGS ON RESPONSES TO COMMENTS ON THE DRAFT EIR AND REVISIONS TO THE FINAL EIR

Finding: Appendix K of the EIR includes the comments received on the Draft EIR and responses to those comments. The focus of the responses to comments is on the disposition of significant environmental issues as raised in the comments, as specified by CEQA Guidelines § 15088(b). The EIR also incorporates information obtained and produced after the Draft EIR was completed, including additions, clarifications, and modifications. The Board has reviewed and considered the Final EIR and all of this information.
The Board finds that responses to comments made on the Draft EIR and revisions to the Final EIR merely clarify, amplify or make insignificant modifications to the analysis presented in the document and do not trigger the need to recirculate per CEQA Guidelines §15088.5(b). Similarly, changes made to the Draft EIR using ARB’s updated version of the EMFAC computer model (EMFAC2014 version 1.0.7), and minor revisions to the project description since publication of the Draft EIR, do not result in any new significant impacts or any substantial increases in the severity of an environmental impact, and do not trigger the need to recirculate per CEQA Guidelines §15088.5(b). This finding is based upon all the information presented in the FEIR, these Findings, and the record of proceedings.

**Rationale:** The new information added to the EIR does not involve a new significant environmental impact, a substantial increase in the severity of an environmental impact, or a feasible mitigation measure or alternative considerably different from others previously analyzed that SANDAG declines to adopt and that would clearly lessen the significant environmental impacts of the Project.

On May 15, 2015, the Air Resources Board (ARB) released an updated version (1.0.7) of EMFAC2014 to the public. The Draft EIR analysis was based on the EMFAC2014 version 1.0.1, which ARB released to the public in December 2014. ARB’s changes to version 1.0.7 added evaporative and tire and brake wear emissions for pre-2000 model year electric vehicles in San Diego County, revised CO2 emission rates for vehicle classes LDT2 and MDV (e.g., SUVs and large pick-up trucks) under the Advanced Clean Cars program, and excluded auxiliary power systems (APS) from T7 idle emission rates. These changes are reflected in new EMFAC modeling done for the Final EIR. They resulted in minor increases in emissions of reactive organic gases (ROG), total organic gases (TOG), sulfur oxide (SOX), particulates (PM10 and PM2.5), and carbon dioxide (CO2) for the Plan and all alternatives evaluated in detail.

With respect to revisions to the project description since publications of the Draft EIR, the project description included in the Draft EIR included all the requirements of Section 15124 of the CEQA Guidelines, including a general description of the project’s technical, economic, and environmental characteristics. Information included in the project description was sufficient to conduct the EIR’s environmental impact analysis using accepted methodologies appropriate for the Program EIR’s level of detail. The project description presented in Draft EIR Chapter 2.0 has been modified to include the following minor revisions and clarifications:

**Transit Project Changes**

The following transit project changes were incorporated into the Final Plan and EIR Chapter 2.0 in response to public comments on the Draft Plan.

- The Draft Plan included Rapid route 905 from Iris Trolley Station to Otay Mesa East Port of Entry. The Final Plan extends this route to also serve Imperial Beach. (Table 2.0-6)
- The Draft Plan included Rapid route 640 between San Ysidro, Downtown San Diego, and Kearny Mesa via I-5 and SR 163. The Final Plan adds two new stations to this route between San Ysidro and Downtown San Diego at H and 24th streets. (Table 2.0-6)
- The Draft Plan includes two new managed lanes along SR 94 between I-805 and Downtown San Diego to accommodate several Rapid routes (225, 90, 235). The Final Plan adds a new transit station in the vicinity of 28th Street to accommodate the Rapid routes. The Draft Plan did not include a transit station in the vicinity of 28th Street. (Table 2.0-6)

Arterial Project Changes

The following arterial project changes were incorporated into the Final Plan and EIR Chapter 2.0 in response to public comments on the Draft Plan.

- Minor improvements to an existing regional arterial (Ashwood Street) in the County of San Diego (e.g., new traffic signal, new turn lanes) have been added (2020 phase) (Table 2.0-13). This project was not included in the Draft Plan.
- The Draft Plan included the County of San Diego regional arterial improvement (Dye Rd extension) in the 2020 phase. The Final Plan delays this project to the 2035 phase (Table 2.0-13),
- The Draft Plan included Phase III of the City of San Diego’s proposed improvements to the Palm Avenue Bridge over I-805 in the 2020 phase. The Final Plan delays these improvements to the 2035 phase (Table 2.0-13).

Regional Transit Oriented Development (TOD) Strategy

The Regional TOD Strategy has been included as Appendix U.4 to the Final Plan. It helps implement the Plan by recommending eight key early actions and 13 strategies that can help the region create TOD projects and districts in association with the existing and future public transit network. These TOD projects and districts reduce GHG emissions; increase transit ridership, walking, and biking; and provide a greater mix of housing and employment opportunities for all of the region’s residents. The 8 key early actions and 13 recommended strategies are summarized below.

Minor Clarifications

The following points of clarification were added to the Final Plan and EIR Chapter 2.0 to clarify components of the Draft Plan in response to public comments.

- Airport Express bus route 242 from Otay Mesa to Lindbergh Field has been added (2020 phase). (Table 2.0-6). It was included in the Draft Plan and inadvertently omitted from Table 2.0-6 in the Draft EIR.
- The San Diego International Airport Intermodal Transit Center (ITC) project was included in the Draft Plan and Draft EIR (Table 2.0-6). This ITC project includes various improvements, including I-5 Direct Connector Ramps. These specific components of the project were not called out in Table 2.0-6 in the Draft EIR, but have been added to the Final EIR.
- Frequency enhancements for the Trolley Green and Orange lines were included in the Draft Plan and inadvertently omitted from Draft EIR Table 2.0-6. These enhancements have been added to the Final EIR.
- Description of the existing ferry service between Downtown Dan Diego and Coronado has been added to the Final Plan and Chapter 2.0 for informational purposes (page 2-16). The Plan does not propose any changes to the ferry service.
- Text has been added on page 2-17 to categorize the various Plan components related to active transportation under the description “Active Transportation Implementation Strategy.” The components themselves are the same as described in the Draft Plan and Draft EIR.
As a result of the EMFAC modeling changes and project description changes, the impact analysis for several environmental resources changed in minor ways from the Draft EIR to the Final EIR. In no case did the project description changes result in a new significant impact, or a substantial increase in the severity of a significant impact identified in the Draft EIR such that recirculation of the Draft EIR is required pursuant to CEQA Guidelines Section 15088.5.

The summary below provides a list of the environmental resource areas where impacts increased from the Draft EIR to the Final EIR, and explains why these changes do not result in a new significant impact, or a substantial increase in the severity of a significant impact identified in the Draft EIR:

**Section 4.3 Air Quality**

**Impact AQ-1**

Impact AQ-1 relates to conflicts with or obstructing the implementation of applicable air quality attainment plans, considered a less than significant impact in 2020, 2035, and 2050, includes on-road transportation air quality conformity analysis for 8-hour Ozone (ROG and NOx) and Carbon Monoxide (CO). The emissions estimates have changed as follows:

- In 2020, on-road ROG emissions would be 17.35 tons/day, 0.03 tons/day or 0.2 percent higher, CO emissions would be 128.79 tons/day, 0.3 tons/day or 0.2 percent higher, and NOx emissions would be 24.86 tons/day, 0.09 tons/day or 0.4 percent higher.
- In 2035, on-road NOx emissions would be 10.77 tons/day, 0.06 tons/day or 0.6 percent higher.
- In 2050, on-road NOx emissions would be 9.47 tons/day, 0.06 tons/day or 0.6 percent higher.

Because future emissions of ROG, CO, and NOx would continue to be lower than 2012 emissions levels, and because the emissions reported in the Final EIR are about one half of one percent or less different than the emissions reported in the Draft EIR, these changes do not result in a new significant impact or a substantial increase in the severity of a significant impact identified in the Draft EIR. Furthermore, implementation of the Regional TOD Strategy key early actions and recommended strategies would not result in a new significant impact or a substantial increase in the severity of a significant impact because they would contribute to lower GHG emissions and increased levels of transit ridership, walking, and biking.

**Impact AQ-2**

Impact AQ-2 relates to violations of or contributions to existing air quality standards, considered a significant impact in 2020, 2035, and 2050, due to particulate emissions (PM10 and PM2.5), includes analysis of Plan air emissions for ROG, CO, NOx, PM10, and PM2.5. The emissions estimates have changed as follows:

- In 2020, total regional ROG emissions would be 68.55 tons/day, 0.03 tons/day or 0.04 percent higher, CO emissions would be 167.4 tons/day, 0.3 tons/day or 0.2 percent higher, NOx emissions would be 35.53 tons/day, 0.09 tons/day or 0.3 percent higher, and PM10 emissions would be 41.68 tons/day, 0.01 tons/day or 0.02 percent higher.
- In 2035, total regional NOx emissions would be 19.32 tons/day, 0.06 tons/day or 0.3 percent higher.
- In 2050, total regional NOx emissions would be 16.8 tons/day, 0.06 tons/day or 0.4 percent higher.
Because future emissions of ROG, CO, and NOx would continue to be lower than 2012 emissions levels, and because the emissions reported in the Final EIR are less than one half of one percent different than the emissions reported in the Draft EIR, these changes do not result in a new significant impact or a substantial increase in the severity of a significant impact identified in the Draft EIR. Because mass PM10 emissions in 2020 would be only about two hundredths of a percent (0.02 percent) higher than reported in the Draft EIR, this change is not considered a substantial increase in the severity of the significant impact identified in the Draft EIR. PM2.5 emissions have not changed. Furthermore, implementation of the Regional TOD Strategy key early actions and recommended strategies would not result in a new significant impact or a substantial increase in the severity of a significant impact because they would contribute to lower GHG emissions and increased levels of transit ridership, walking, and biking.

**Section 4.6 Energy**

**Impact EN-1**

Impact EN-1 relates to total and per capita energy use, considered a less than significant impact in 2020, 2035, and 2050 because both total and per capita energy would decrease below 2012 levels under the Plan, includes estimates of future total and per capita energy use.

- In 2020, total regional energy use would be 7 percent lower than in 2012, same as in the Draft EIR. Per capita energy use would be 14 percent lower by 2020, which is one percent lower than the 15 percent reduction reported in the Draft EIR.
- In 2035, total energy use and per capita energy use would be 16 percent and 31 percent lower than in 2012. The Draft EIR reported reductions of 18 and 33 percent, respectively, for total and per capita energy use from 2012 to 2035.
- In 2050, total energy use and per capita energy use would be 12 percent and 32 percent lower than in 2012. The Draft EIR reported reductions of 14 and 32 percent, respectively, for total and per capita energy use from 2012 to 2050.

Because future total and per capita energy use would continue to be less than 2012 levels, these changes do not result in a new significant impact. Furthermore, implementation of the Regional TOD Strategy key early actions and recommended strategies would not result in a new significant impact or a substantial increase in the severity of a significant impact because they would contribute to lower GHG emissions and increased levels of transit ridership, walking, and biking.

**Section 4.8 Greenhouse Gas Emissions**

**Impact GHG-1**

Impact GHG-1 (less than significant impact) analyzes whether total regional GHG emissions increase above 2012 levels and includes estimates of total regional GHG emissions in 2020, 2035, and 2050. Total regional emissions in 2050 would be 26 MMTCO2e, 0.1 MMTCO2e or 0.4 percent higher than the 25.9 MMTCO2e reported in the Draft EIR. Because total regional GHG emissions in 2050 would be 24.9 percent lower than 2012 levels, this change is not considered a new significant impact under GHG-1. Total regional emissions for 2020 and 2035 would not be higher than reported in the Draft EIR. Furthermore, implementation of the Regional TOD Strategy key early actions and recommended strategies would not result in a new significant impact or a substantial increase in the severity of a significant impact because they would contribute to lower GHG emissions and increased levels of transit ridership, walking, and biking.
Impact GHG-3

Impact GHG-3 (less than significant impact) relates to conflicts with SB 375 regional GHG reduction targets, includes the Plan’s compliance with SB 375 requirements for passenger vehicle GHG reductions in 2020. The Draft EIR reported that the Plan would achieve SB 375 reductions of 18 percent and 24 percent in 2020 and 2035. The Final EIR reports that the Plan would achieve reductions of 15 and 21 percent in 2020 and 2035.

Because per capita CO2 emissions from passenger vehicle use in 2020 and 2035 would continue to meet and exceed the targets set for SANDAG by the ARB, the changes would not result in a new significant impact. The primary reason for the changes is that after publication of the Draft EIR, ARB created the following new requirement for SB 375 compliance. Because the ARB-determined 2005 baseline for SB 375 compliance was determined using ARB’s EMFAC2007 model, and because the Plan uses EMFAC2014 (v1.0.7) – ARB’s most recent model that reflects its current understanding of motor vehicle emissions – to estimate the Plan’s GHG emissions for SB 375 compliance. ARB now requires that SANDAG reduce the EMFAC2014 model results by two percent when determining SB 375 compliance (ARB 2015). Furthermore, implementation of the Regional TOD Strategy key early actions and recommended strategies would not result in a new significant impact or a substantial increase in the severity of a significant impact because they would contribute to lower GHG emissions and increased levels of transit ridership, walking, and biking.

Impact GHG-4

Impact GHG-4 (significant impact) analyzes whether the proposed Plan would result in inconsistencies with the State’s ability to achieve Executive Order GHG reduction goals, and includes estimates of total regional GHG emissions in 2020, 2035, and 2050.

Because total regional emissions in 2050 would be 26 MMTCO2e, 0.1 MMTCO2e or 0.4 percent higher than the 25.9 MMTCO2e reported in the Draft EIR, this change is not considered a substantial increase in the severity of the significant impact (Impact GHG-4) identified in the Draft EIR. Total regional emissions for 2020 and 2035 would not be higher than reported in the Draft EIR. Furthermore, implementation of the Regional TOD Strategy key early actions and recommended strategies would not result in a new significant impact or a substantial increase in the severity of a significant impact because they would contribute to lower GHG emissions and increased levels of transit ridership, walking, and biking.

X. FINDING ADOPTING A MITIGATION MONITORING PROGRAM

The SANDAG Board of Directors finds that a Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the Plan and has been adopted concurrently with these Findings (Public Resources Code, § 21081.6(a)(1)). SANDAG will use the MMRP to track compliance with mitigation measures. The MMRP will remain available for public review during the compliance period.

XI. FINDING REGARDING LOCATION AND CUSTODIAN OF RECORD

The documents and other materials that constitute the record of proceedings on which SANDAG’s Findings of Fact are based are located at 401 B Street, Suite 800, San Diego, California 92101. The custodian of these documents is Andrew Martin, Associate Planner. This information is provided in compliance with Public Resources Code § 21081.6(a)(2) and 14 Cal. Code Regs. § 15091(e).
For purposes of CEQA at these Findings, the Record of Proceedings for the Project consists of the following documents, at a minimum:

- The Notice of Preparation and all other public notices issued by SANDAG and in conjunction with the Project.
- The Draft and Final EIRs, including appendices and technical studies included or referenced in the Draft and Final EIRs.
- All comments submitted by agencies or members of the public during the 55-day public comment period on the Draft EIR.
- All comments and correspondence submitted to SANDAG with respect to the Project.
- The MMRP for the Project.
- All Findings and resolutions adopted by SANDAG decision makers in connection with the Project, and all documents cited or referred to therein.
- All reports, studies, memoranda, maps, staff reports, or other planning documents relating to the Project prepared by AECOM, consultants to SANDAG.
- All documents and information submitted to SANDAG by responsible, trustee, or other public agencies, or by individuals or organizations, in connection with the Project, up through the date the SANDAG Board of Directors approved the Project.
- Minutes and/or verbatim transcripts of all information sessions, public meetings, and public hearings held by SANDAG, in connection with the Project.
- Any documentary or other evidence submitted to SANDAG at such information sessions, public meetings, and public hearings.
- Matters of common knowledge to SANDAG, including, but not limited to federal, state, and local laws and regulations.
- Any documents expressly cited in these Findings, in addition to those cited above.
- Any other materials required to be in the Record of Proceedings by Public Resources Code § 21167.6(e).
References

California Air Pollution Control Officers Association (CAPCOA)


California Air Resources Board (ARB)


2012b  ARB and USEPA Off-Road Compression-Ignition (Diesel) Engine Standards (NMHC+NOx/CO/PM in g/bhp-hr). http://www.arb.ca.gov/msprog/offroad/orcomp/orcomp.htm.


2015  Methodology to Calculate CO2 Adjustment to EMFAC Output for SB 375 Target Demonstrations.

California Attorney General’s Office

California Department of Transportation


Cleveland National Forest Foundation (CNFF)


Federal Transit Administration (FTA)


Fuller, M., S. Bai, D. Eisinger, and D. Niemeier


Maher, B.A., I.A.M. Ahmed, B. Davison, V. Karloukovski, and R. Clarke


Move San Diego


National Park Service


San Diego Air Pollution Control District (SDAPCD)


San Diego Association of Governments (SANDAG)


San Diego County Water Authority (SDCWA)


San Diego Gas & Electric


U.S. Department of Energy (DOE)


United States Environmental Protection Agency (USEPA)


Western Regional Air Partnership

ATTACHMENT 1B

STATEMENT OF OVERRIDING CONSIDERATIONS
FOR SAN DIEGO FORWARD: THE REGIONAL PLAN

The San Diego Association of Governments (SANDAG) Board of Directors (Board) adopts and makes this statement of overriding considerations concerning San Diego Forward: The Regional Plan’s (the Regional Plan) unavoidable significant impacts to explain why the Regional Plan’s benefits override and outweigh its unavoidable impacts.

The Final Environmental Impact Report (EIR) has identified and discussed significant effects that would occur as a result of the Regional Plan. As set forth in these California Environmental Quality Act (CEQA) Findings, SANDAG has made a reasonable and good faith effort to eliminate or substantially mitigate the impacts resulting from the Regional Plan and has made specific findings on each of the Regional Plan’s significant impacts and on mitigation measures and alternatives. Even with implementation of all feasible mitigation, however, the Regional Plan will result in significant and unavoidable impacts, both direct and cumulative, to: Aesthetics and Visual Resources; Agriculture and Forest Resources; Air Quality; Biological Resources; Cultural and Paleontological Resources; Energy; Geology, Soils, and Mineral Resources; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Land Use; Noise and Vibration; Population and Housing; Public Services and Utilities; Transportation; and Water Supply.

In accordance with Section 15093 of the CEQA Guidelines, and having reduced the adverse significant environmental effects of the Regional Plan to the extent feasible, having considered the entire administrative record on the Regional Plan, and having weighed the benefits of the Regional Plan against its unavoidable adverse impacts after mitigation, the Board hereby finds that the following legal, economic, social, and environmental benefits of the Regional Plan outweigh its unavoidable adverse impacts and render them acceptable based upon the following considerations. Each benefit set forth below constitutes an overriding consideration warranting approval of the Regional Plan, independent of the other benefits, despite each and every unavoidable impact.

**Regional Plan Benefits**

The Regional Plan establishes 13 policy objectives to achieve the vision of providing innovative mobility choices and planning to support a sustainable and healthy region, a vibrant economy, and an outstanding quality of life for all. The Regional Plan achieves the vision in the following ways:

**Greenhouse Gas Emissions and Vehicle Miles Traveled Benefits**

- The Regional Plan would achieve the Senate Bill 375 (Steinberg, 2008) (SB 375) regional greenhouse gas reduction targets, reducing 2020 per capita emissions by 15 percent and 2035 per capita emissions by 21 percent compared to the SB 375 2005 baseline. (Regional Plan, Chapter 2, Table 2.1)

- The Regional Plan will lower vehicle miles traveled per capita. Daily vehicle miles traveled per capita would decrease by about 8 percent under the Regional Plan, from 25.2 miles per person per day in 2012 to 23.2 miles per person per day in 2050 (Final EIR, Section 4.15)

- The Regional Plan will result in sustained and continued reductions in total GHG emissions from passenger vehicle and light duty trucks. In 2012, the Plan will result in 13.14 million metric tons of CO2e (MMTCO2e) from passenger vehicles and light duty trucks; in 2020, 11.18 MMTCO2e; in 2035, 7.69 MMTCO2e; and in 2050, 7.46 MMTCO2e (Regional Plan, Appendix D)
• The Regional Plan will result in sustained and continued reductions in total GHG emissions from electricity and natural gas. In 2012, the Plan will result in 7.97 MMTCO$_2$e from electricity; in 2020, 6.41 MMTCO$_2$e; in 2035, 6.05 MMTCO$_2$e; and in 2050, 5.76 MMTCO$_2$e. In 2012, the Plan will result in 2.84 MMT CO$_2$e from natural gas; in 2020, 2.79 MMTCO$_2$e; in 2035, 2.73 MMTCO$_2$e; and in 2050, 2.69 MMTCO$_2$e (Regional Plan, Appendix D)

**Economic Benefits**

• The Regional Plan is expected to result in about 53,000 more jobs and $13 billion in gross regional product (GRP) per year, on average, over the life of the Plan, compared to the No Project Alternative. About 11,500 of those jobs, and $1.2 billion of the GRP increase, result directly from transportation investment; the rest, over 40,000 jobs and over $12 billion in GRP, result from private sector investments enabled by the improved efficiency in the transportation system. This equates to an increase of 2.5 percent in employment, and 4 percent in GRP between 2012 and 2050. This increased economic activity also will put an average of nearly $6 billion annually in additional income into the pockets of San Diego residents. The Regional Plan yields a return of nearly $2 for every $1 invested (Regional Plan, Chapter 4)

**Land Use and Housing Benefits**

• The Regional Plan’s SCS land use pattern would accommodate forecasted population, housing, and employment growth to 2050 also while improving access to employment, shopping, and services in all parts of the region. The Regional Plan would bring home, work, and services together and help reduce the need for long commuter trips. This is consistent with the Series 13 Regional Growth Forecast, as well as the movement of local jurisdictions to a smart growth land use pattern. In 2050, the SCS land use pattern will accommodate 87 percent of the region’s new housing units and 79 percent of new jobs within a half-mile of public transit; the SCS accommodates 79 percent of all housing and 86 percent of all jobs within the portion of the region covered by the Urban Area Transit Strategy. This represents an increase from the land use pattern in the prior SCS adopted in 2011 in which 64 percent of the region’s housing units and 76 percent of the region’s jobs were located within 1/2 mile of transit. (Regional Plan, Chapter 2, Appendix C).

• The SCS land use pattern addresses the needs of all economic segments of the population. About 82 percent of the projected 325,000 new homes to be built by 2050 will be attached, multifamily units – with a planned capacity of more than 169,000 units at greater than 30 dwelling units per acre, and more than 61,000 units with a housing density of 20 to 30 dwelling units per acre. This capacity for planned housing development, particularly for multifamily development, will help the region accommodate the projected housing needs for residents of all income levels. (Regional Plan, Chapter 2, Appendix C, Table C.3)

• The Regional Plan land use pattern protects and preserves about 1.3 million acres of land as open space, more than half (about 55 percent) of the San Diego region’s land area. These open space lands include habitat conservation areas, parks, steep slopes, farmland, floodplains, and wetlands. (Regional Plan, Chapter 2, Appendix J)
Transit, Bicycle/Pedestrian, and Carpool Benefits

- The Regional Plan’s new transit services combined with the compact land use pattern of the SCS will increase the number of housing units within a half-mile of high frequency public transit from 35 percent in 2012 to 62 percent in 2050. (Regional Plan, Appendix C, Figure C.1 and Table C.1)

- The Regional Plan will increase the percentage of low income, minority, and senior populations within a half-mile of high frequency public transit. For the low income population, 70 percent will be within a half-mile of high frequency public transit service by 2050, up from 46 percent in 2012. For the minority population, 67 percent will be within a half-mile by 2050, up from 43 percent in 2012. For seniors, 56 percent will be within a half-mile by 2050, up from 30 percent in 2012. (Regional Plan, Appendix N)

- The Regional Plan will provide faster travel times to work for transit and carpools. Average peak-period travel time to work for transit will decrease by 10 percent under the Regional Plan, from 50 minutes in 2012 to 45 minutes in 2050. Average peak-period travel time to work for carpools will decrease by 4 percent under the Regional Plan, from 25 minutes in 2012 to 24 minutes in 2050 (Regional Plan, Appendix N)

- The Regional Plan provides more than 100 miles of new Trolley and SPRINTER light rail service, complete double tracking of the LOSSAN and SPRINTER rail corridors, more than 160 miles of Managed Lanes to facilitate carpools, vanpools, and Rapid transit service, and will complete the more than 500 miles of bike routes identified in the Regional Bike Plan. Most local bus service routes within the Urban Area Transit Strategy boundary will see services frequencies increase to every 10 minutes all day. Most Rapid routes will have 10 minute all day frequency (Regional Plan, Chapters 2 and 5)

- Compared to 2012 levels (356,000), the Regional Plan will more than double the amount of daily regional transit boardings to 775,000 by 2035, with a further increase to 947,000 daily boardings by 2050. Annual regional transit boardings also will more than double under the Regional Plan from 100.5 million in 2012 to 247.9 million in 2035 and 303.0 million by 2050. (Regional Plan, Chapter 2)

- The Regional Plan will result in a higher mode share for walk, bike, transit, and carpools. By 2050, the walk, bike, transit, and carpool mode share would be 60 percent, up from about 57 percent in 2012. Transit mode share would double, from about 2 percent in 2012 to about 4 percent in 2050. Walk and bike mode share would increase from about 11 percent in 2012 to 14 percent in 2050. Drive-alone mode share would decrease from 43 percent in 2012 to 40 percent in 2050 (Regional Plan, Appendix N)

- The Regional Plan will increase the percentage of the population within 30 minutes of jobs and higher education on transit, from 86 percent in 2012 to 89 percent in 2050 (Regional Plan, Appendix N)

- The Regional Plan will increase the percentage of the low income and minority populations within 30 minutes of jobs and higher education on transit. For the low income population, the percentage will increase from 91.5 percent in 2012 to 92.3 percent in 2050. The percentage of minority population within 30 minutes of jobs and higher education on transit will increase 89.1 percent in 2012 to 91.7 percent in 2050. (Regional Plan, Appendix H, Table H.9)
• The Regional Plan will provide faster travel time to work using transit for low-income and minority populations. For the low income population, average peak period travel time to work using transit improves by 6 minutes or 12 percent (52 minutes in 2012 to 46 minutes in 2050). For the minority population, the improvement is 5 minutes or 10 percent (51 minutes in 2012 to 46 minutes in 2050) (Regional Plan, Appendix H, Table H.4)

**Safety and Physical Activity Benefits**

• Walking and biking will be safer under the Regional Plan. The annual rate of injury/fatal collisions for bicycles and pedestrians will decrease by about 17 percent under the Regional Plan, from 1.42 collisions per 1,000 bike-pedestrian miles traveled (BPMT) in 2012 to 1.18 BPMT in 2050 (Regional Plan, Appendix N)

• Time engaged in transportation-related physical activity will increase on a per capita basis by 29 percent, and the percent of the population that engages in more than 20 minutes of daily transportation-related physical activity will increase by 22 percent from 2012 to 2050. (Regional Plan, Appendix N)

**Travel Time and Vehicle Delay Benefits**

• The Regional Plan will reduce daily vehicle delay per capita by about 9 percent, from 11 minutes per person per day in 2012 to 10 minutes per person per day in 2050 (Regional Plan, Appendix N)

• Tribal lands will be more accessible with implementation of the Regional Plan, with average travel times to and from tribal lands decreasing by 7 percent, from 27 minutes in 2012 to 25 minutes in 2050. (Regional Plan, Appendix N)
Purpose and Intended Use of the MMRP

The California Environmental Quality Act (CEQA) requires that an agency adopt a Mitigation Monitoring or Reporting Program (MMRP) prior to approving a project that includes mitigation measures. This MMRP has been prepared in compliance with the requirements of Section 21081.6 of the California Public Resources Code and Sections 15091(d) and 15097 of the CEQA Guidelines.

The purpose of this MMRP is to ensure the adopted mitigation measures adopted in the findings of fact for San Diego Forward: The Regional Plan (Regional Plan) are implemented, in accordance with CEQA requirements. The Regional Plan EIR findings adopt feasible mitigation measures to reduce the significant environmental impacts of the Regional Plan. This MMRP clarifies the process for SANDAG and Implementation Agencies to ensure these mitigation measures are implemented, and designates responsibility for implementing, monitoring, and reporting mitigation.

Several of the adopted EIR mitigation measures are plan-level measures that will be implemented by SANDAG. Many of the adopted mitigation measures are programmatic mitigation measures that shall be implemented by SANDAG and can and should be implemented by other agencies during future project-specific design and environmental review. When SANDAG is the direct source of funding for transportation network improvement projects, SANDAG will require as a grant condition the implementation of those Regional Plan mitigation measures that are applicable to, and feasible for, the project type being funded. The MMRP for this Program EIR may be used as a tool for incorporating mitigation measures into future second-tier projects, as provided for in CEQA Guidelines Section 15168(c)(3).

In addition, SB 375 provides specific CEQA streamlining for residential/mixed-use projects and transportation priority projects (TPPs) if they incorporate mitigation measures from an SB 375-compliant RTP EIR. To take advantage of these CEQA streamlining opportunities, implementing agencies may use this MMRP as a tool for incorporating mitigation measures in their future residential/mixed use projects and TPPs.

Mitigation Measures Adopted with the Regional Plan

Mitigation measures adopted in the Regional Plan EIR findings are included in Table 1, which identifies:

- The content of the mitigation measure
- The timing of implementation:
  - Planning and Project Design
  - Grading/Construction
  - Post Construction
  - Ongoing
• The responsible party:
  o SANDAG
  o Other Transportation Project Sponsors – Transportation or other governmental agencies, including Caltrans, transit districts, cities, and the County of San Diego, responsible for implementing local or regional transportation network improvements
  o Land use – Land use agencies, including cities and the County of San Diego, and special districts such as water service providers, responsible for discretionary actions involved in land use and associated infrastructure projects and planning

**Enforcement**

CEQA requires mitigation measures to be “fully enforceable” through the use of permit conditions, agreements, or other measures within each Lead Agency’s authority (Public Resources Code 21081.6(b)). Many of the adopted mitigation measures are programmatic mitigation measures that shall be implemented by SANDAG and can and should be implemented by other agencies during future project-specific design and environmental review. The Lead Agency for each future project is responsible for assuring the project-specific mitigation measures it adopts are enforceable.

**Implementation and Reporting**

SANDAG shall designate a staff person to serve as coordinator for overall implementation and administration of this Mitigation and Monitoring Program and for its application to future projects in which SANDAG is the Lead Agency. This person (Coordinator) will also ensure that when SANDAG is the direct source of funding for transportation network improvement projects, SANDAG will require as a grant condition the implementation of those Regional Plan mitigation measures that are applicable to, and feasible for, the project type being funded.

**Mitigation Monitoring Status Reporting**

For those mitigation measures that SANDAG is responsible for implementing or partially implementing, reports on the progress of implementation of these measures will be prepared by staff on an annual basis. The report shall be prepared by the Coordinator and contain the following:

- A list of mitigation measures incorporated into second-tier environmental documents;
- Recommendations for modifications to the Mitigation and Monitoring Program to improve effectiveness; and
- Required modifications to the Mitigation and Monitoring Program to comply with legislation and policies adopted in the previous year (e.g. newly listed threatened species).

Implementing Agencies for second-tier projects will be responsible for developing their own processes for mitigation monitoring status reporting.
## Table 1
Mitigation Monitoring and Reporting Program

<table>
<thead>
<tr>
<th>Mitigation Measures</th>
<th>Implementation Timing</th>
<th>Responsible Party</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Planning/Design/CEQA Review</td>
<td>Grading/Construction</td>
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<tr>
<td><strong>Aesthetics and Visual Resources</strong></td>
<td>X</td>
<td>X</td>
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<tr>
<td><strong>AES-1A Protect Public Views of Scenic Vistas.</strong></td>
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<tr>
<td>During planning, design, project-level CEQA review, and construction of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, ensure that projects protect public views of scenic vistas. Construction and operational measures include, but are not limited to, the following:</td>
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<td>• Site construction staging areas away from scenic vistas. Where infeasible, reduce the visibility of construction staging areas. Fence and screen these areas with low contrast materials consistent with the surrounding environment.</td>
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<tr>
<td>• Avoid permanent obstruction of scenic vistas from public viewing areas when selecting alignments and the grade of new infrastructure (i.e., above, at, or below grade).</td>
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<tr>
<td>• Use see-through safety barrier designs (e.g., railings) rather than walls.</td>
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<tr>
<td>In addition, during planning, design, construction and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should incorporate scale and massing measures, including those listed under AES-1A, as well as measures specific to development projects. These measures include, but are not limited to, the following:</td>
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<td>• Ensure building siting, height, and mass protect views of scenic vistas.</td>
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<tr>
<td>• Implement design guidelines, local policies, and programs aimed at protecting views of scenic vistas and avoiding visual intrusions. Projects should be designed to minimize contrasts in scale and massing between the project and surrounding natural forms and developments. Avoid large cuts and fills when the visual environment (natural or urban) would be substantially disrupted. Site or design of projects should minimize their intrusion into important viewsheds and use contour grading to better match surrounding terrain.</td>
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### Mitigation Measures

<table>
<thead>
<tr>
<th>Implementation Timing</th>
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<tbody>
<tr>
<td>Planning/Design/CEQA Review</td>
<td>SANDAG</td>
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<tr>
<td>Grading/Construction</td>
<td>Transportation Project Sponsor</td>
</tr>
<tr>
<td>Post-Construction</td>
<td>Land Use Agency/Special District</td>
</tr>
<tr>
<td>Ongoing</td>
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</table>

- Screen development adjacent to natural features as appropriate so that development does not appear visually intrusive, or interfere with the experience within the scenic vista. The provision of enhanced landscaping adjacent to natural features could be used to soften the appearance of or buffer development from the natural features.
- Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:
  - Creative site planning
  - Integration of natural features into the project
  - Appropriate scale, materials, and design to complement the surrounding natural landscape
  - Minimal disturbance of topography
  - Clustering of development to preserve a balance of open space vistas, natural features, and community character
  - Creation of contiguous open space networks

### AES-2A Reduce Impacts to scenic resources within a state scenic highway.

During planning, design, and project-level CEQA review of transportation network improvements within eligible or designated state scenic highways and local scenic resources and public viewsheds, SANDAG shall, and other transportation project sponsors can and should, ensure that projects are designed to reduce impacts. In addition, during planning, design and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should incorporate measures that ensure that projects are designed to reduce impacts to scenic resources within eligible and designated state scenic highways, and local scenic resources and public viewsheds. Measures include, but are not limited to, the following:

- Avoid damaging, moving, or removing trees, rock outcroppings, historic bridges, and other scenic resources from eligible or designated state scenic highway corridors and local scenic resources and public viewsheds, where those scenic resources are relevant to the designation or eligibility for designation as a state scenic highway or are identified as a protected visual resource in local plans.
### Mitigation Measures

<table>
<thead>
<tr>
<th><strong>AES-2B Reduce Impacts to local scenic resources and public viewsheds.</strong></th>
<th><strong>Implementation Timing</strong></th>
<th><strong>Responsible Party</strong></th>
</tr>
</thead>
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<tr>
<td>For projects within or adjacent to designated or eligible state scenic highway corridors, and local scenic resources and public viewsheds identified in local approved plans, prior to project approval, complete design studies identifying site-specific mitigation measures and during project construction, implement such mitigation measures to reduce impacts on the quality of the views or visual experience that originally qualified the highway for scenic designation, and protected status of local resources in approved plans.</td>
<td>Planning/Design/CEQA Review</td>
<td>SANDAG</td>
</tr>
<tr>
<td></td>
<td>Grading/Construction</td>
<td>Transportation Project Sponsor</td>
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<td></td>
<td>Ongoing</td>
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</tbody>
</table>

**AES-3A Reduce impacts to visual character.**

During planning, design, and project-level CEQA review of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, ensure that projects are designed to reduce impacts. In addition, during planning, design and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should incorporate measures that ensure that projects are designed to reduce impacts. Measures include, but are not limited to, the following:

- Use contour grading to match surrounding terrain and existing natural, and man-made features of the area.

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**AES-2B Reduce Impacts to local scenic resources and public viewsheds.**

During planning, design, and project-level CEQA review of development projects within or adjacent to local scenic resources and public viewsheds, the County of San Diego, cities, and other local jurisdictions can and should, ensure that projects are designed to reduce impacts. In addition, during planning, design, and project-level CEQA review of development projects, project sponsors can and should incorporate measures that ensure that projects are designed to reduce impacts to local scenic resources and public viewsheds. Measures include, but are not limited to, the following:

- Apply development standards and guidelines to maintain compatibility with surrounding natural areas, including site coverage, building height and massing, building materials and color, landscaping, and site grading.
- Ensure vegetation used as screening and landscaping blends in and complements the natural landscape.
- Retain or replace trees within scenic resources and public viewsheds so that clear-cutting is not evident.
- Ensure grading blends with the adjacent landforms and topography.
### Mitigation Measures

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<tr>
<td>SANDAG</td>
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<td>Revegetate graded slopes and exposed earth surfaces prior to completion of construction.</td>
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<td>Grading/Construction</td>
<td>Construct permanent barriers (e.g., sound walls, safety barriers, retaining walls) of materials whose color and texture or treatment (e.g., landscaping cover) complements the surrounding landscape and development. Break up large barrier façades using techniques that include, but are not limited to, color, texture, landscaping, see-through safety barriers, and alternating façades.</td>
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### Agricultural and Forestry Resources

**AG-1A Preserve Existing Agricultural Lands.**

During project design and project-level CEQA review of transportation network improvements or development projects, SANDAG shall and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, preserve existing agricultural lands by avoiding agricultural land conversion when feasible; if not feasible, measures to reduce conversion of agricultural lands to nonagricultural use include, but are not limited to, the following:

- Acquire or dedicate agricultural conservation easements (minimum acreage ratio of 1:1 of comparable quality land). If feasible, locate the easement within or in close proximity to the same city or community as the conversion occurs in. Where conversion occurs within the Coastal Zone, locate the easement within the Coastal Zone, if feasible.
- If a project requires cancellation of a Williamson Act contract, acquire or dedicate agricultural conservation easements (minimum acreage ratio of 1:1 of comparable quality land). If feasible, locate the easement within or in close proximity to the same city or community as the cancellation occurs in. Where the cancellation occurs within the Coastal Zone, locate the easement within the Coastal Zone, if feasible.
- Where agricultural conservation easements are acquired or dedicated, consider the suitability of a specific proposed easement on its ability to avoid or reduce fragmentation of agricultural land to enhance overall production value and operation viability.
- Where project-specific mitigation described above is not feasible, use other commensurate solutions, such as payment of an agricultural resource impact fee made pursuant to an approved in-lieu fee program.
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<th>Mitigation Measures</th>
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During project design and project-level CEQA review of transportation network improvements or development projects, SANDAG shall and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should reduce conflicts with agricultural operations through the implementation of project design features and mitigation measures to protect surrounding agriculture, including, but not limited to, the following:

- Provide buffers, berms, setbacks, fencing, or other project design measures to protect surrounding agriculture, such topographic features, and open space, and to reduce conflict between transportation network improvements and/or developments and farming.
- Maintain and expand agricultural land protections such as urban growth boundaries;
- Minimize severance and fragmentation of agricultural land by constructing underpasses and overpasses at reasonable intervals to provide property access.
- Align corridors, incorporate buffer zones and setbacks, and berms and fencing to avoid agricultural lands and to reduce conflicts between transportation projects and agricultural lands.

FR-1A Reduce Impacts to Forest Lands.

During project planning, design and project-level CEQA review of transportation network improvements or development projects, SANDAG shall and other transportation project sponsors, the County of San Diego, cities and other local jurisdictions can and should preserve forest lands through avoiding conversion of forest lands when feasible, and if not feasible, through the implementation of measures to reduce impacts to forest lands. As a result, during project planning, design and project-level CEQA review, SANDAG shall and other transportation project sponsors, the County of San Diego, cities and other local jurisdictions can and should apply, but not be limited to, the following measures to reduce impacts to forest lands:

- Implement Compensatory Mitigation of Forest Lands. Provide compensatory mitigation using mitigation ratios as specified through consultation with resource agencies and in approved habitat conservation plans and ordinances. Consistent with the above plans and ordinances, compensatory mitigation outside the Coastal Zone 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. Compensatory mitigation for impacts inside the Coastal Zone may not be satisfied through in lieu fee programs and would occur within the Coastal Zone close 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.

- **Implement Offsite Mitigation.** When off-site mitigation is needed, 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 (in lieu fee programs would not be used to provide mitigation for impacts located within the Coastal Zone). When mitigation is provided outside of an adopted NCCP/HCP the following conditions would apply: mitigation lands would be connected to existing conserved open space; consideration would 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 would be mitigated within the same Critical Habitat Unit where the impacts occurred. Mitigation lands would 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. Habitat acquisitions, bank purchases, or fee program payments would be coordinated with resource agencies and regional habitat conservation and planning efforts such as the MSCP and MHCP.

- **Implement Compensatory Mitigation of Riparian Forests considered Jurisdictional Wetlands and Waters of the U.S. and/or State.** Provide compensatory mitigation for impacts to riparian forests considered jurisdictional wetlands and water of the U.S. and/or State, either through the purchase of credits at an existing authorized mitigation bank or in lieu fee program, or through project-specific mitigation. Compensatory mitigation for impacts inside the Coastal Zone may not be satisfied through in lieu fee programs and would occur within the Coastal Zone close to the impact. The mitigation ratio for jurisdictional wetlands would 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 CDFW may result in a higher ratio. A minimum on-site mitigation/restoration ratio of 1:1 would be provided for temporary impacts, unless USACE and CDFW recommend a higher ratio. Prepare a mitigation and monitoring plan per the requirements of USACE and CDFW for all impacts to riparian forests considered jurisdictional wetlands and waters of the U.S. and/or State.
### Mitigation Measures

#### Air Quality

**AQ-2A: Implement Construction Best Management Practices for Fugitive Dust.**

During planning, design, and project-level CEQA review of transportation network improvements and programs or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, evaluate the potential for localized particulate (PM$_{10}$ and PM$_{2.5}$) impacts that result in exceedances of the CAAQS or NAAQS using applicable procedures and guidelines for such analyses (for example, SDAPCD and USEPA air dispersion modeling guidance). If impacts are significant, during project-level construction, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement BMPs to reduce impacts, including but not limited to:

- Use fugitive dust control measures to reduce dust generation from exposed surfaces during construction, as specified in SDAPCD Rule 55 (SDAPCD 2009). SDAPCD Rule 55 requires that construction or demolition activities subject to this rule prevent the discharge of visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period; that visible roadway dust as a result of active construction and demolition operations be minimized by the use of any of the following or equally effective trackout/carry-out and erosion control measures that apply to the project or operation: track-out grates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and that trackout/carry-out dust be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. Compliance with these regulatory requirements is a performance standard for mitigation of construction activity particulate emissions. Reductions in fugitive dust emissions range from 40 to 80% for minimizing trackout to 91% for use of tarps or cargo covering when transporting material (SCAQMD 2007, WRAP 2006).
- Use additional fugitive dust control measures such as watering or application of dust suppressants to reduce the generation of fugitive dust at active construction sites. Reductions in fugitive dust emissions range from 10 to 74% for watering of unpaved surface to 84% for use of dust suppressants (WRAP 2006).
Mitigation Measures

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- Implement controls on haul trucks to reduce emissions from haul trucks transporting soil, sand, or other loose material off-site. Reductions in fugitive dust emissions are estimated at 91% for use of tarps or cargo covering when transporting material (SCAQMD 2007).
- Remove visible mud or dirt track-out onto adjacent public roads. Reductions in fugitive dust emissions range from 40 to 80% for minimizing trackout (WRAP 2006).
- Limit vehicle speeds on unpaved surfaces during construction to 15 mph. Reductions in fugitive dust emissions from unpaved surfaces are estimated at 57% (WRAP 2006).
- Suspend excavation, grading, and/or demolition activities when average wind speeds exceed 20 mph. Reductions in fugitive dust emissions are estimated at 98% (WRAP 2006).
- Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas. Reductions in fugitive dust emissions from wind erosion are estimated at 98% (WRAP 2006).
- Wash all trucks and equipment, including their tires, prior to leaving the construction site. No quantitative estimate of the effectiveness of this measure is available.
- Implement other site-specific fugitive dust control measures as warranted for individual construction projects for the transportation network and/or land use projects.

AQ-4A: Reduce Exposure to Localized Particulate and/or TAC Emissions.

During planning, design, and project-level CEQA review of transportation network improvements and programs, SANDAG shall, and other transportation project sponsors can and should, evaluate the potential TAC impacts for the health risks of the project using applicable procedures and guidelines for such analyses (for example, California Air Pollution Control Officers’ Association [CAPCOA], OEHHA, and/or USEPA air toxics health risk assessment guidance). If impacts result in increased risks to sensitive receptors above 10 in a million for cancer risks or hazards above 1.0 for noncancer risks, SANDAG shall, and other transportation project sponsor, can and should apply measures to reduce TAC emissions, including but not limited to the following:

- Plant trees and/or vegetation suited to trapping TACs and/or sound walls between sensitive receptors and the pollution source. This measure would trap TACs emitted from pollution sources such as freeways, reducing the amount of TACs to which residents and other sensitive populations would be exposed. The effectiveness of TAC removal from tree plantings ranges from 4.6% per hour (Fuller, et al. 2009) to a total of greater than 50% (Maher et al., 2013); sound walls achieve reductions up to about 50% and a combination of sound walls and vegetation achieve reductions up to about 60% (ARB 2012c).
## Mitigation Measures

In addition, during planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should apply the above measures, and additional measures to reduce TAC emissions or exposure to TAC emissions, including but not limited to:

- For land use projects located within 500 feet of a freeway or urban roads with 100,000 vehicles/day or rural roads, install air filtration (as part of mechanical ventilation systems or stand-alone air cleaners) to reduce cancer risks (as well as PM exposure) for residents and other sensitive populations in buildings that are close to transportation network improvement projects. Use air filtration devices rated MERV-13 or higher. As part of implementing this measure, require an ongoing maintenance plan for the building’s HVAC air filtration system. This measure would reduce exposure of residents and other sensitive populations to TACs and would thus reduce cancer risks. This measure is estimated to reduce indoor levels of particulates, including DPM, by 70% to 90% (ARB 2012a).

- Reduce the potential for TACs to be introduced into buildings by:
  - Maintaining a positive air pressure within buildings that include sensitive receptors.
  - Achieving a performance standard of at least one air exchange per hour of fresh outside filtered air.
  - Achieving a performance standard of at least 4 air exchanges per hour of recirculation.
  - Achieving a performance standard of at least 0.25 air exchanges per hour of unfiltered air if the building is not positively pressurized.

- Design sites to locate sensitive receptors away from any freeways, roadways, diesel generators, distribution centers, and rail yards. Locate operable windows, balconies, and building air intakes away from these sources. If near a distribution center, do not locate residents immediately adjacent to a loading dock or where trucks concentrate to deliver goods. This measure would reduce exposure of residents and other sensitive populations to TACs emitted from freeways, roadways, diesel generators, distribution centers, and rail yards, both by locating them away from these sources and by reducing the potential exposure within the building or on balconies.

- Within developments, separate sensitive receptors from truck activity areas, such as loading docks and delivery areas. This measure would reduce exposure of residents and other sensitive receptors by locating sources of TACs associated with loading docks and delivery areas away from sensitive receptors.

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**Mitigation Measures**

- Replace or retrofit existing diesel generators that are not equipped to meet ARB’s Tier 4 emission standards. This measure would reduce emissions of TACs from diesel generators by an estimated 95% as compared with Tier 1 standards (ARB 2012b).
- Reduce emissions from diesel trucks using the project site through the following measures:
  - Install electrical hook-ups for electric or hybrid trucks at loading docks.
  - Require trucks to use Transportation Refrigeration Units (TRUs) that meet Tier 4 emission standards.
  - Require truck-intensive projects to use advanced exhaust technology (e.g., hybrid) or alternative fuels.
  - Prohibit trucks from idling for more than 2 minutes as feasible.
  This measure would reduce emissions of TACs from trucks and TRUs by reducing operations and requiring them to use electrical hookups.
- Do not locate sensitive receptors in the same buildings as a perchloroethylene dry cleaning facility. This measure would reduce potential exposure of sensitive receptors to perchloroethylene from dry cleaning facilities.
- Maintain a 50-foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year). This measure would reduce potential exposure of sensitive receptors to emissions from gas stations.
- Ensure that private (individual and common) exterior open space, including playgrounds, patios, and decks, is shielded from stationary sources of air pollution by buildings or otherwise buffered to further reduce air pollution exposure for project occupants. This measure would reduce the potential for exposure of residents and other sensitive populations to stationary sources of TAC emissions.

**AQ-4B: Reduce diesel emissions during construction from off-road equipment.**

For impacts to air quality from construction exhaust as a result of transportation network improvements and programs or development projects, during project-level CEQA review and construction, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement BMPs to reduce TAC (and PM) impacts from off-road equipment, including, but not limited to, the following:

- X
- X
- X
- X
- X
- X
## Mitigation Measures

- Ensure off-road equipment greater than 25 hp that will be operating for more than 20 hours during construction meets the following requirements:
  - By 2015, provide engines that meet or exceed either USEPA or ARB Tier 2 off-road emission standards; by 2020, provide engines that meet or exceed either USEPA or ARB Tier 3 off-road emission standards; or
  - Retrofit engines with an ARB Level 3 Verified Diesel Emissions Control Strategy (VDECS), if available for the equipment being used, unless the equipment meets Tier 4 emission standards.
  - If project-specific analysis demonstrates that the above measures would not adequately reduce impacts (as determined by the project-level lead agency), then by 2015, provide engines that meet or exceed either USEPA or ARB Tier 3 off-road standards, and by 2020, provide engines that meet or exceed either USEPA or ARB Tier 4 off-road standards.
- Monitor idling time of diesel-powered construction equipment and limit to no more than 2 minutes.
- Maintain and properly tune construction equipment in accordance with the manufacturers’ specifications.
- Prohibit portable diesel generators and use grid power when it is available. Use propane or natural gas generators when grid power electricity is not feasible.
- Use late model engines.
- Use low emission diesel products.
- Use alternative fuels in construction equipment.
- Use engine retrofit technology to control emissions from off-road equipment.

Requiring off-road equipment to meet Tier 2 standards would reduce DPM emissions up to 63 percent from Tier 1 standards; Tier 3 standards would reduce DPM emissions up to 63 percent for smaller Tier 1 engines; and Tier 4 standards would DPM reduce emissions up to 95 percent (USEPA 2015e).

### AQ-4C: Reduce diesel particulate emissions from on-road vehicles used in construction.

For impacts to air quality from construction exhaust as a result of transportation network improvements and programs or development projects, during project-level CEQA review and construction, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement BMPs to reduce TAC (and PM) impacts from on-road vehicles, including but not limited to:

- Monitor idling time of diesel-powered trucks, and limit to no more than 2 minutes.
- Provide clear signage for construction workers at all access points.

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<td>BIO 1A Implement Design and Avoidance Measures for Vegetation and Regulated Waters.</td>
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<tr>
<td>During planning, design, project-level CEQA review, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, avoid impacting sensitive natural communities and regulated waters, including wetlands, when feasible. Avoidance measures include, but are not limited to, the following:</td>
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<td>• Confine development footprints to the minimal amount of area necessary for construction and safe, reliable operation. Limit access routes and staging areas to existing roadways, developed areas, or disturbed areas. Clearly delineate all construction areas, staging areas, and access routes in the final engineering plans.</td>
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<td>• Limit grading and earth-moving activities to the permitted impact footprint. Install environmentally sensitive area fencing or flagging along the limits of disturbance prior to the start of construction to avoid incidental loss of sensitive habitat types.</td>
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<td>BIO 1B Provide Compensatory Mitigation.</td>
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<td>Where impacts are unavoidable under Mitigation Measure BIO-1A, during planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation, as specified through consultation with resource agencies, and consistent with approved MSCP or MHCP documents, applicable federal and state regulatory requirements for mitigating impacts to regulated waters including wetlands and riparian habitat, or applicable local regulations protecting sensitive natural communities.</td>
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### Mitigation Measures

SANDAG shall and other implementing agencies can and should establish appropriate mitigation ratios that would reduce impacts, depending on the location of the impact and the affected sensitive natural community, and meet the requirements of resource agencies and applicable adopted plans, ordinances, and policies. SANDAG shall and other implementing agencies can and should design compensatory mitigation to result in the establishment of self-sustaining sensitive natural communities, replacing the lost habitat and/or habitat value, as required to offset those lost to the impacts.

- **Sensitive Natural Communities**

  For impacts outside the Coastal Zone, provide compensatory mitigation either through the purchase of credits at an existing authorized mitigation bank or in lieu fee program, or through project-specific mitigation. Provide compensatory mitigation for impacts inside the Coastal Zone within the Coastal Zone as close as is feasible to the impact. Consistent with the resource agencies and applicable adopted plans, ordinances, and policies, provide project-specific mitigation for sensitive natural communities (see BIO-1B (b) for regulated waters, including wetlands,) through the following:

  - On-site restoration for temporary impacts;
  - On-site or off-site preservation of existing habitats through acquisition and/or restoration using EMP and other mitigation funds for permanent impacts. Protect mitigation lands 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. Meet off-site mitigation requirements using EMP and other mitigation funds. When mitigation is provided outside of an adopted NCCP/HCP plan area the following conditions apply:
    - Give priority to mitigation lands connected to existing conserved open space;
    - Consider contributing in the establishment of large blocks of habitat or lands that are otherwise critical for covered species and/or providing for biological core areas and habitat linkages consistent with current regional conservation planning goals; and
    - Mitigate impacts to critical habitat within the same Critical Habitat Unit where the impacts occurred.
  - Purchase of habitat credits at an approved mitigation bank, or through payment into an

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**Mitigation Measures**

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approved in-lieu mitigation fee program applicable to the impacts.

- Regulated Waters, including Wetlands.

Where impacts to jurisdictional waters are unavoidable under Mitigation Measure BIO-1A, SANDAG shall and other implementing agencies can and should mitigate such impacts. Construction within regulated waters, including wetlands, would be subject to prior authorization by USACE, RWQCB, and CDFW. In some areas where impacts are small, the levels of impact may be low enough to be covered by applicable Nationwide Permits.

Consistent with the resource agencies permitting and applicable adopted plans, ordinances, and policies, provide project-specific mitigation for impacts to regulated waters, including wetlands and riparian habitat, through one of the following:

- Purchase of credits at an existing authorized mitigation bank or in lieu fee program, except within the coastal zone. Provide compensatory mitigation for impacts inside the coastal zone at sites within the coastal zone close to the impact.
- Project-specific mitigation. Apply an appropriate mitigation ratio for jurisdictional wetlands to ensure no net loss of wetlands functions and values, account for temporal losses, and set in coordination with USACE and CDFW. When appropriate functions and values assessments are not available, use a minimum mitigation ratio of 1:1 based on area or linear feet.

**BIO 1C Prepare a Mitigation and Monitoring Plan.**

During planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, as specified through consultation with resource agencies, and consistent with approved MSCP or MHCP documents, applicable federal and state regulatory requirements, prepare and implement a Habitat Management and Monitoring Plan for impacts to sensitive natural communities and a Mitigation and Monitoring Plan consistent with the requirements of USACE and CDFW for all impacts to regulated waters, including wetlands. These plans shall include the following:

- Details regarding the location of the site, site appropriateness, preparation (e.g., grading),...
### Mitigation Measures

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- recontouring, planting specifications (including seed mixes and plant palettes), irrigation design (if determined necessary), and measures to control exotic vegetation.
- Impacts to other sensitive vegetation communities that may occur as the result of implementing this measure including direct loss and indirect effects related to changes in hydrology and species composition.
- Identification of locally appropriate plant species for the plan, and outline of performance standards and remedial measures if the mitigation efforts fall short of the performance standards. 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.
- Maintenance and monitoring procedures (including monitoring period and reporting). Maintain and monitor restoration or creation locations for a minimum of 5 years, but continue maintenance and monitoring until required performance standards are achieved. Establish performance standards sufficient to create self-sustaining habitat providing the functions and values required to offset those lost to the impacts and meet the requirements of applicable agency and adopted plans, ordinances, and policies. After final performance standards have been met and any relevant permitting agencies have approved the mitigation project as complete, conserve mitigation areas permanently (e.g., through a conservation easement) and provide for management in perpetuity.
- The aforementioned requirements shall reflect the latest available information on climate change impacts and adaptation measures.

### BIO 1D Implement Best Management Practices to Avoid Indirect Impacts.

During planning, design, project-level CEQA review, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, include implementation of location-specific measures to avoid and minimize construction-generated dust, erosion, runoff, sedimentation, and exotic plant invasion, within or into sensitive natural habitats and jurisdictional waters. Location-specific measures include, but are not limited to, the following:

- Prepare a Storm Water Pollution Prevention Plan (SWPPP) to comply with RWQCB requirements. In the SWPPP, identify the design features and best management practices (BMPs) that would be used to effectively manage drainage-related issues (e.g., erosion and sedimentation) during construction.
### Mitigation Measures

Examples of BMPs 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.

- Place construction materials, staging, storage, dispensing, fueling, and maintenance activities in upland areas outside of sensitive habitat, and take adequate measures to prevent any runoff from entering regulated waters, including wetlands.
- Fuel equipment on existing paved roads. Check contractor equipment for leaks prior to operation and repaired as necessary.
- Monitor construction activities using a qualified biologist when construction is occurring in, or adjacent to, sensitive habitat and grant the biologist the authority to stop work if it deviates from approved plans and mitigation measures. Ensure that the qualified biologist has relevant expertise for the affected resources.
- No planting or seeding of invasive plant species on the most recent version of the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory.

### BIO-2A Implement Design and Avoidance Measures for Special Status Species.

During planning, design, project-level CEQA review, and construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, incorporate measures to avoid and minimize impacts to special status species.

- Construction: Construction measures include, but are not limited to, the following:
  - Implement noise attenuation measures (e.g., temporary noise barriers) if qualified biologists determine construction noise levels are disturbing special status wildlife species.
  - Backfill all wildlife pitfalls (trenches, bores, and other excavations) at the end of each work day. If backfilling is not feasible, slope all trenches, bores, and other excavations at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access.
  - Delineate permitted work areas, including staging areas, equipment access, and placement of soils, with fencing or stakes prior to construction to prevent access to areas occupied by special status species.
  - Require monitoring of construction activities by qualified biologists when construction is occurring in, or adjacent to, areas suitable for, or occupied by special status species, with authority to stop work if it deviates from approved plans and mitigation measures.
  - Avoid nighttime construction. When activities must occur at night, direct lighting (e.g., staging

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<tr>
<th>Mitigation Measures</th>
<th>Implementation Timing</th>
<th>Responsible Party</th>
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<tr>
<td>Examples of BMPs 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.</td>
<td>Planning/Design/CEQA Review</td>
<td>SANDAG</td>
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<td>Place construction materials, staging, storage, dispensing, fueling, and maintenance activities in upland areas outside of sensitive habitat, and take adequate measures to prevent any runoff from entering regulated waters, including wetlands.</td>
<td>Grading/Construction</td>
<td>Transportation Project Sponsor</td>
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<tr>
<td>Fuel equipment on existing paved roads. Check contractor equipment for leaks prior to operation and repaired as necessary.</td>
<td>Post-Construction</td>
<td>Land Use Agency/Special District</td>
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<tr>
<td>Monitor construction activities using a qualified biologist when construction is occurring in, or adjacent to, sensitive habitat and grant the biologist the authority to stop work if it deviates from approved plans and mitigation measures. Ensure that the qualified biologist has relevant expertise for the affected resources.</td>
<td>Ongoing</td>
<td>Special Status Species</td>
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### Mitigation Measures

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<td>Ongoing</td>
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- **Implementation Timing**
  - Planning/Design/CEQA Review
  - Grading/Construction
  - Post-Construction
  - Ongoing

- **Responsible Party**
  - SANDAG
  - Transportation Project Sponsor
  - Land Use Agency/Special District

#### BIO-2A

Areas, equipment storage sites, roadway) downward and away from sensitive vegetation communities. Use light glare shields to reduce the extent of illumination into adjoining areas.

- Remove spoils, trash, or any debris to an off-site, approved disposal facility. Contain trash and food items in closed containers and remove daily to reduce the attractiveness to opportunistic predators such as coyotes and feral dogs and cats that may prey on sensitive species. Prohibit workers from bringing pets and firearms to the site.

- Clear vegetation outside of the typical breeding season of special status wildlife species as determined by the wildlife agencies or qualified biologist. If activities must occur during special status species breeding season timeframes, conduct a pre-construction survey by a qualified biologist to determine whether the species of concern, including birds protected under the MBTA, are present within the proposed work area or appropriate buffer (buffer distance may vary depending on the type of activity and the species and other site conditions). If the species of concern are found on-site, implement measures and construction monitoring to avoid impacts as determined by the wildlife agency(ies) and/or the qualified biologist.

- **Operation and maintenance**
  - If permanent lighting is necessary, use motion sensitive lighting rather than steady burning, and direct downward and away from natural vegetation communities. Use light glare shields to reduce the extent of illumination into adjoining areas.
  - In the event that vegetation clearing or other vegetation maintenance is required, schedule vegetation clearing outside special status wildlife species breeding seasons as specified above in BIO-2A, a, vii.
  - Implement operational noise reduction measures described in Section 4.12.4 (see mitigation measure N-1A).

#### BIO-2B

Provide Compensatory Mitigation for Special Status Plant Species.

Where impacts are unavoidable, during planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation for impacts to special status plant species as specified through consultation with resource agencies, and consistent with approved MSCP or MHCP documents, federal and state regulatory requirements, or local regulations.

| BIO-2B | X | X | X | X |
### Mitigation Measures

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<th>Federally and/or State Listed Plant Species</th>
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<tr>
<td>If an individual project would result in “take” of a federally and/or state plant species, consult with wildlife agencies and/or require the applicant to obtain appropriate take authorizations (e.g., Section 2081 Incidental Take Permit, NCCP, Section 7, Section 10 HCP) prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations. Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, that are also consistent with the requirements of resource agencies and applicable adopted plans, ordinances, and policies that include the appropriate habitat, area, and species in compensation lands. If appropriate, require the applicant to acquire suitable mitigation habitat as part of the SANDAG environmental mitigation program or use a mitigation bank to compensate for impacts. Prepare a species and habitat compensation plan to 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. Include in the compensation plan success criteria for reestablishing the affected species and habitat, and remedial measures that must be implemented if the project is not meeting specified performance criteria. Include a monitoring program designed to maintain the resources on lands used as mitigation. Design the monitoring program to evaluate the current and probable future health of the resources, and their ability to sustain populations following the completion of the program. Design remedial measures appropriate for the species and habitat. Appropriate remedial measures include but are not limited to exotic species management, access control, replanting and reseeding of appropriate habitat elements, and propagation and seed bulking programs.</td>
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<thead>
<tr>
<th>Non-federally and/or Non-state Listed Special Status Plant Species</th>
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<tr>
<td>If an individual project would result in “take” of a non-federally and/or non-state listed special status plant species, require the applicant to obtain all appropriate authorizations (e.g., CDFW or USFWS concurrence, NCCP, HCP) prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations. Mitigate loss of habitat using mitigation banks or through project-specific mitigation. Mitigate habitat impacts through preservation, restoration, or creation of self-sustaining suitable habitat. Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, to meet the requirements of resource agencies and applicable adopted plans, ordinances, and policies.</td>
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<td>Ongoing</td>
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Mitigation Measures

### BIO-2C Provide Compensatory Mitigation for Special Status Wildlife Species.

Where impacts are unavoidable, during planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, provide compensatory mitigation for impacts to special status wildlife species as specified through consultation with resource agencies, and in approved MSCP or MHCP documents, federal and state regulatory requirements, or local regulations.

- **Federally and/or State Listed Wildlife Species**
  - If an individual project would result in “take” of a federally and/or state wildlife species, consult with wildlife agencies and/or require the project applicant to obtain appropriate take authorizations (e.g., Section 2081 Incidental Take Permit, Section 7, NCCP, HCP) prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations. Mitigate loss of habitat using mitigation banks or through project-specific mitigation. Mitigate habitat impacts through preservation, restoration, or creation of self-sustaining suitable habitat. Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, that are also consistent with the requirements of resource agencies and applicable adopted plans, ordinances, and policies.

- **Non-federally and/or Non-state Listed Special Status Wildlife Species**
  - If an individual project would result in “take” of a non-federally and/or non-state listed special status wildlife species, require project applicants to obtain all appropriate authorizations (e.g., resource agency concurrence, NCCP, HCP) prior to construction as required by state, federal, and regional conservation plan (NCCP/HCP) regulations. Mitigate loss of habitat using mitigation banks or through project-specific mitigation. Mitigate habitat impacts through preservation, restoration, or creation of self-sustaining suitable habitat. Establish appropriate habitat mitigation ratios, depending on the location of the impact and the species, that are also consistent with the requirements of resource agencies and applicable adopted plans, ordinances, and policies.

### BIO-3A Facilitate Wildlife Movement.

During planning, design, and project-level CEQA review of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement project designs that provide for continued movement of wildlife by limiting edge effects and assisting wildlife navigation through or across barriers in areas where wildlife corridors and nursery sites are identified in this EIR, adopted HCP/NCCPs, or movement studies that identify evidence of wildlife movement. Design measures include, but are not limited to, the following:
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<th>Mitigation Measures</th>
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<td>• Allow corridor buffer zones and wide movement corridors to remain or incorporate periodic larger habitat patches along a corridor’s length;</td>
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<td>• Use only native species for landscaping within at least 200 feet of identified wildlife corridors;</td>
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<td>• Incorporate shielded and directed lighting in areas near corridors;</td>
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<td>• Install physical barriers (e.g., fencing) that prevent human and/or domestic predator entry into the corridor and, if appropriate, limit the amount of noise and lighting that enters the corridor;</td>
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<td>• Minimize the number of road crossings through identified wildlife corridors;</td>
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<td>• Use features such as open span bridges instead of closed culverts to allow for wildlife movement;</td>
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<td>• If bridges are infeasible, incorporate undercrossings and/or other crossing structures that allow continued movement of wildlife where transportation facilities create barriers to wildlife movement and use of nursery sites. Evaluate size-class-specific crossing structures and movement enhancement feature (e.g. habitat refugia within structure, soft bottom undercrossings, etc.), for each species to ensure that crossings are functional for movement. Additionally, within aquatic habitat impacting fish corridors for species such as southern steelhead, create passable aquatic barriers for migratory fish species in order to have the functional effect of fish access to spawning and rearing habitats;</td>
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<td>• Maintain undercrossings and/or other crossing structures as needed to ensure wildlife movement. Prepare a fencing and wildlife crossing structure maintenance plan for projects with edge effects to maintain permeability for wildlife across corridors;</td>
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<td>• Install directional fencing, where appropriate, to reduce vehicle mortality and guide wildlife to proposed bridges, undercrossings, and/or other crossing structures. Where fencing stops, extend the fence and angle it away from the roadways to deter wildlife from being funneled to roadways. Because it is not possible to install a continuous fence, use one-way gates so animals that do get around fence end runs can safely exit roadways.</td>
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**Cultural and Paleontological Resources**

**CULT–1A Develop Project-Level Measures.**

During project-level CEQA review of transportation network improvements or development projects that would cause a substantial adverse change in the significance of a CEQA-defined “historical resource” or significantly affect a unique archeological resource, SANDAG shall, and transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, develop project-level protocols and mitigation measures, consistent with CEQA Guidelines Section 15126.4(b) and in consultation with the State Historic Preservation Officer (SHPO) as needed, to avoid or reduce impacts to CEQA-defined historical resources and unique archaeological resources.
### Mitigation Measures

Allow for adequate resources to identify (through survey, consultation, or other means) cultural resources in order to develop minimization and avoidance methods where possible. Consult with appropriate Native American representatives to provide necessary input as to resources that are of concern. These may include natural areas that contain resources of importance to tribes that are located outside of reservations. Project-level mitigation measures include, but are not limited to, the following:

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<td>Ongoing</td>
<td>SANDAG</td>
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#### Unique Archaeological Resources
- Where feasible, avoid impacts to unique archaeological resources by preservation in place by:
  - Avoiding archaeological sites.
  - Deeding archaeological sites into permanent conservation easements.
  - Capping or covering archaeological sites with a layer of soil before building on the sites.
- If preservation in place is not feasible, reduce impacts on archaeological sites by completion of a data recovery program conducted in compliance with CEQA Guidelines Section 15126.4(b) and other transportation project sponsor guidelines. 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.

#### Historic Resources
- Conduct maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, relocation, or reconstruction to reduce impacts on historic resources, and have a qualified architectural historian or historic architect review mitigation plans to review consistency with the Secretary of the Interior’s Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings; and
- If avoidance of a built historic resource is not feasible, apply additional mitigation options including, but not limited to, specific design plans for historic districts, or plans for alteration or adaptive reuse of a historical resource that follows the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring, and Reconstructing Historic Buildings.
- If demolition of a historical resource must occur, apply mitigation options such as recordation including a building description, historical narrative, and photographic documentation of the building and appropriate as-built drawings similar to the Historic American Building Survey documentation outlined by the National Park Service (National Park Service 2015).
## Mitigation Measures

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<td>Planning/Design/CEQA Review</td>
<td>Grading/Construction</td>
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<tr>
<td>CULT-1B Implement Monitoring and Data Recovery Programs.</td>
<td>X</td>
<td>X</td>
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</table>

During project-level CEQA review and during construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement monitoring and data recovery measures to reduce impacts on both known and undiscovered CEQA-defined historical resources and unique archaeological resources, including but not limited to the following:

- Require areas identified in any required monitoring and mitigation plan to be monitored during the grading phase of individual projects by a qualified archaeologist and tribal monitor if needed.
- Should an archaeological deposit and/or feature be encountered during construction activities that is determined to be a historic resource or unique by a qualified archaeologist, stop ground-disturbing activities and prepare and/or implement an Archaeological Data Recovery Program (ADRP) in consultation with SHPO.
- Integrate curation of archaeological and/or historical artifacts and associated records in a regional center focused on the care, management, and use of archaeological collections if the artifact must be excavated. This does not include Native American human remains and associated burial items, the disposition of which should be determined in consultation with the MLDs (see Impact CULT-2).

<table>
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<tr>
<th>PALEO-1A Identify Potential for Unique Paleontological Resources or Unique Geologic Features.</th>
<th>Implementation Timing</th>
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<td>PALEO-1A Identify Potential for Unique Paleontological Resources or Unique Geologic Features.</td>
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Mitigation Measures

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<tr>
<td>PALEO-1B Avoid or Reduce Impacts to Unique Paleontological Resources or Unique Geologic Features.</td>
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<tr>
<td>If it is determined during planning, design, and project-level CEQA review that transportation network improvements or development projects would be located within an area that likely contains unique paleontological resources or unique geologic features (based on results of the work done in Paleo-1A), SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, avoid or reduce impacts to these resources when feasible. If impacts cannot be avoided, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, retain a qualified paleontologist prior to construction to:</td>
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<td>• Prepare a paleontological monitoring and mitigation plan, which will outline where monitoring should occur and procedures for discoveries, consistent with applicable regulations and guidelines;</td>
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<td>• Establish procedures for monitoring and the possible pre-construction salvage of exposed resources if fossil-bearing rocks or unique geologic features have the potential to be affected;</td>
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<td>• Provide pre-construction coordination with contractors;</td>
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<td>• Be on-site to observe during grading operations and 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, recover scientifically valuable specimens or ensure avoidance of the unique paleontological resource or unique geologic feature, and oversee fossil salvage operations and reporting.</td>
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<tr>
<td>Energy</td>
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<tr>
<td>EN-3A Mitigate Impacts of New or Expanded Energy Facilities.</td>
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<tr>
<td>During the planning, design, and project-level CEQA review process, San Diego region energy providers, the County of San Diego, cities, and other local jurisdictions 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 construction or expansion activities. Such conditions should include those necessary to avoid or reduce environmental impacts associated with, but not limited to, air quality, noise, traffic, biological resources, cultural resources, GHG emissions, hydrology and water quality, and others that apply to specific construction or expansion of natural gas and electric facilities projects.</td>
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<td>EN-3B Develop Energy Demand Calculations and Reduce Energy Demand.</td>
<td>X</td>
<td>SANDAG</td>
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<tr>
<td>MR-1A Conserve Aggregate and Mineral Resources.</td>
<td>X</td>
<td>SANDAG, Transportation Project Sponsor, Land Use Agency/Special District</td>
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<tr>
<td>Greenhouse Gas Emissions</td>
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#### EN-3B Develop Energy Demand Calculations and Reduce Energy Demand.

During the planning, design, and project-level CEQA review process for individual development projects, San Diego region energy providers, the County of San Diego, cities, and other local jurisdictions can and should develop electricity and natural gas demand calculations for any project anticipated to require substantial energy consumption. Projects should implement design and mitigation measures that reduce energy consumption and promote the use of on-site renewable energy.

#### Geology, Soils, and Mineral Resources

**MR-1A Conserve Aggregate and Mineral Resources.**

During planning, design, and project-level CEQA review of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, avoid loss of known aggregate and mineral resources or locally important mineral resource recovery sites. Where avoidance is infeasible, SANDAG shall, and other transportation project sponsors can and should, minimize impacts to the availability of known resources and recovery sites through measures that include, but are not limited to, the following:

- Designing transportation network improvements in a manner (such as buffer zones or the use of screening) that does not preclude adjacent or nearby extraction of known mineral and aggregate resources following completion of the improvement and during long-term operations.

In addition, during planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should avoid or reduce impacts on known aggregate and mineral resources and mineral resource recovery sites through the evaluation and selection of project sites and design features (e.g., buffers) that minimize impacts on land suitable for aggregate and mineral resource extraction by maintaining portions of MRZ-2 areas in open space or other general plan land use categories and zoning that allow for mining of mineral resources.

#### Greenhouse Gas Emissions

**GHG-4A Allocate Competitive Grant Funding to Projects that Reduce GHG Emissions (SANDAG).**

SANDAG shall revise the TransNet Smart Growth Incentive and Active Transportation Grant Programs in the following ways to achieve GHG reductions:

- Adopt new or revised grant criteria to give greater weight to a project’s ability to directly reduce GHG emissions. Criteria include, but are not limited to, awarding points to projects that directly implement
### Mitigation Measures

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- **Local climate action plans that reduce GHG emissions, or that directly implement parking strategies that reduce GHG emissions.**
  - Require locally adopted CAPs and complete streets policies as prerequisites to be eligible for grant funding. The locally adopted CAPs shall include measures to reduce GHG emissions to 1990 levels by 2020, and achieve further reductions beyond 2020 consistent with adopted regional or local GHG reduction targets.
  - If a local jurisdiction does not have an adopted CAP or complete streets policy, SANDAG shall make available competitive funding through the grant programs for preparation of a CAP and/or complete streets policy.
  - In addition to grant funding, SANDAG shall provide technical assistance to local jurisdictions for the preparation of CAPs as described in GHG-4E.
  - These changes shall be adopted and effective for the fourth cycle of funding for both programs, which is expected to be released in December 2016.

**GHG-4B Adopt a Detailed Regional Mobility Hub Implementation Plan to Reduce GHG Emissions (SANDAG).**

Mobility hubs are places of connectivity, where different modes of transportation—walking, biking, ridesharing, and transit—come together to connect people to their jobs, school, shopping, errands, recreation, and back home; they reduce GHG emissions through reducing VMT and increasing transit use and alternative transportation. To implement the general “Regional Mobility Hub Implementation Strategy” listed as a proposed Plan near-term action, once this general strategy is developed, SANDAG shall develop and adopt a detailed Regional Mobility Hub implementation Plan no later than 2017 that includes:

1. Identification of mobility hub features and infrastructure requirements
2. Selection of 20 mobility hub locations that align with the smart growth place types identified in the Smart Growth Concept Map. Three mobility hubs will be implemented by 2020, and 17 more will be implemented by 2035.
3. Establishment of first mile/last mile transportation networks for each candidate mobility hub site based on travel patterns, access catchment areas, and adjacent land uses
4. Development of design guidelines for each candidate mobility hub site
5. Recommendation of specific mobility hub improvements and preparation of conceptual designs and capital cost estimates for each candidate mobility hub site
6. Site-specific implementation strategies
GHG-4C Fund Electric Vehicle Charging Infrastructure (SANDAG).

To implement the proposed Plan action calling for building a network of electric vehicle chargers to promote the use of electric vehicles, SANDAG shall set aside approximately $30 million of Congestion Management and Air Quality (CMAQ) Improvement Program funds expected between 2020 and 2050 (approximately $1 million annually) to fund the installation of publicly available electric vehicle charging infrastructure. Increasing the number of publicly available electric vehicle charging points would reduce GHG emissions by extending the electric range of plug-in hybrid electric vehicles that would replace gasoline-powered internal combustion engines. The funding that would be provided is an incentive for installation of Level 1 and Level 2 electric vehicle chargers in publicly accessible locations throughout the region. Level 1 charging (similar to a standard wall outlet) adds about 2 to 5 miles of range to an electric vehicle per hour of charging time while Level 2 (240 V circuit) adds about 10 to 20 miles of range per hour of charging time. A detailed program will be developed and presented to the SANDAG Board of Directors before the adoption of the next Plan update with funding becoming available by 2020. Available funding will be leveraged to install up to 36,000 EV chargers by 2035 and an additional 44,000 chargers by 2050.

GHG-4D Adopt a Plan for Transportation Fuels that Reduce GHG Emissions (SANDAG).

SANDAG shall adopt a regional readiness plan for the deployment of infrastructure for all alternative fuels by 2016. The plan will identify barriers to developing alternative fuel infrastructure, and include recommendations and resources for stakeholders to overcome these barriers. The plan will build on the regional readiness plan for plug-in electric vehicles accepted by the Board in 2014. This plan will contribute to reductions in GHGs through developing recommendations for facilitating access to alternative fuels, which will reduce emissions from vehicles.

Also, SANDAG has received a notice of proposed award from CEC for additional funding to implement the PEV Readiness Plan over 2 years. SANDAG shall provide technical assistance to local government staff, contractors, and property managers on permitting, inspection, and installation for EV charging and general PEV awareness activities. This funding is included in the Fiscal Year 16 budget.
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<td>GHG-4E Assist in the Preparation of Climate Action Plans and Other Measures to Reduce GHG Emissions (SANDAG).</td>
<td></td>
<td>SANDAG</td>
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<tr>
<td>SANDAG shall assist local governments in the preparation of CAPs, and other policies/measures to reduce GHG emissions. SANDAG shall assist local governments in identifying all feasible measures to reduce GHG emission to 1990 levels by 2020, and achieve further reductions beyond 2020 consistent with adopted regional or local GHG reduction targets. Specific forms of SANDAG assistance include, but are not limited to:</td>
<td>Planning/Design/CEQA Review</td>
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<td>Assisting its member agencies in obtaining funding for, directly funding, updating and implementing CAPs and other climate strategies through continued implementation of the SANDAG Energy Roadmap Program.</td>
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<td>Providing funding and energy planning assistance to local governments to implement projects that save energy and reduce energy-related GHG emissions.</td>
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<td>As described in GHG-4A, for local jurisdictions that do not have an adopted CAP, SANDAG shall make available competitive funding through the grant programs for preparation of a CAP.</td>
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<tr>
<td>GHG-4F Implement Measures to Reduce GHG Emissions from Transportation Projects (SANDAG).</td>
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<td>During the planning, design, project-level CEQA review, construction, and operation of transportation network improvements, SANDAG shall implement measures to reduce GHG emissions, including but not limited to, applicable transportation project measures on the Attorney General’s list of project specific measures (California Attorney General’s Office 2010), as well as the CAPCOA reference, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA 2010). These include, but are not limited to, the following:</td>
<td>Planning/Design/CEQA Review</td>
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<td>Implement construction measures through construction bid specifications, including the following topics:</td>
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<td>Use energy and fuel efficient vehicles and equipment;</td>
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<td>Use alternative fuel vehicles and equipment;</td>
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<td>Use lighting systems that are energy efficient, including LED technology;</td>
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<td>Use lighter-colored pavement, binding agents that are less GHG-intensive than Portland cement, and less-GHG intensive asphalt pavements; and</td>
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<td>Recycle construction debris.</td>
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<td>Install efficient lighting (including LEDs) for traffic, street, and other outdoor lighting.</td>
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<td>Mitigation Measures</td>
<td>Implementation Timing</td>
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| • Incorporate infrastructure electrification into project design (e.g., electric vehicle charging; charging for electric bikes).  
• Incorporate electric vehicle supply equipment (EVSE) into projects that include commuter parking areas.  
• Design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.  
• Design measures to reduce energy consumption and increase use of renewable energy, such as solar-powered toll booths and other facilities, including those listed in Mitigation Measure EN-3B.  
• Design measures to reduce water consumption, such as drought-resistant landscaping, smart irrigation systems, and other measures including those listed in Mitigation Measure WS-1A.  
• Construct buildings to Leadership in Energy and Environmental Design (LEED) certified standards or equivalent standards. | Planning/Design/CEQA Review | SANDAG                 |
|                                                                                     | Grading/Construction  | Transportation Project Sponsor |
|                                                                                     | Post-Construction     | Land Use Agency/Special District |
|                                                                                     | Ongoing               | X                          |
| GHG-4G Implement Measures to Reduce GHG Emissions from Transportation Projects (Other Transportation Project Sponsors). | X                      | X                        |
| During the planning, design, project-level CEQA review, construction, and operation of transportation network improvements, other transportation project sponsors can and should implement measures to reduce GHG emissions, including, but not limited to, those described in Mitigation Measure GHG-4F. | X                      | X                        |
| GHG-4H Implement Measures to Reduce GHG Emissions from Development Projects (Local Governments). | X                      | X                        |
| During the planning, design, project-level CEQA review, construction, and operation of development projects, the County of San Diego and cities can and should implement measures to reduce GHG emissions, including but not limited to, applicable land use measures on the Attorney General's list of project specific measures (California Attorney General’s Office 2010), as well as the CAPCOA reference, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA 2010). These measures include, but are not limited to, the following:  
• Construction measures, including those listed in Mitigation Measure GHG-4F.  
• Measures that reduce VMT by increasing transit use, carpooling, bike-share and car-share programs, and active transportation, including:  
  o Building or funding a major transit stop within or near development, in coordination with transit agencies;  
  o Developing car-sharing and bike-sharing programs;  
  o Providing transit incentives, including transit passes for MTS/NCTD buses and trolleys; | X                      | X                        |
### Mitigation Measures

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<td>Grading/Construction</td>
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<td>Post-Construction</td>
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- Consistent with the Regional Bicycle Plan, incorporating bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
- Implementing complete streets consistent with the SANDAG Regional Complete Streets Policy, including adopting local complete streets policies;
- Implementing mobility hubs consistent with the Regional Mobility Hub Strategy;
- Improving transit access to bus and trolley routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to trolley and transit stations; and
- Implementing employer trip reduction measures to reduce employee trips and VMT such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs.

- Measures that reduce VMT through parking strategies based on the SANDAG Regional Parking Management Toolbox, including:
  - Parking pricing strategies consistent with the Toolbox;
  - Reduced minimum parking requirements;
  - Residential parking permit programs;
  - Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
  - Provide adequate bicycle parking;
  - Other strategies in the SANDAG Regional Parking Management Toolbox

- Measures that reduce VMT through Transportation Systems Management (TSM), including measures included in proposed Plan Appendix E.

- Land use siting and design measures that reduce GHG emissions, including:
  - Developing on infill and brownfields sites;
  - Building high density and mixed use developments near transit; and
  - Retaining on-site mature trees and vegetation and planting new trees.

- Measures that increase vehicle efficiency or reduce the carbon content of fuels, including constructing electric vehicle charging stations or neighborhood electric vehicle networks or charging for electric bicycles consistent with SANDAG’s regional readiness planning for alternative fuels.
### Mitigation Measures

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- Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.
- Measures to reduce energy consumption and increase use of renewable energy, including those listed in Mitigation Measures EN-3A and EN-3C.
- Measures to reduce water consumption, including those listed in Mitigation Measure WS-1A.

### Hazards and Hazardous Materials

#### HAZ-5A Reduce Wildfire Risk.
During planning, design and project-level CEQA review of development projects located in known High Fire Hazard Areas, the County of San Diego, cities, and other local jurisdictions can and should ensure that project sponsors and project applicants implement measures to reduce impacts from wildfires. Such measures include, but are not limited to:

- 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 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.

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#### HAZ-5B Ensure Emergency Response Services.
During planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should reduce impacts of wildfires on people and structures by ensuring that:

- Adequate emergency response services, emergency response times, and emergency plans are in place.
- Emergency response services and emergency response times and plans are or will be available to meet service levels identified in the applicable local general plan or service master plan. This should be documented in the form of a capacity analysis or provider will-serve letter.
- Fire access road network plans are or will be available for inclusion in Community Plans or other planning documents.
- Fire apparatus access roads and secondary access for projects are provided.

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<td>Mitigation Measures</td>
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<td>Land Use</td>
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### LU-1A Provide Access and Connections.
During planning, design, and project-level CEQA review of transportation network improvements including new trolley extensions, and roadway widening improvements, SANDAG shall, and other transportation project sponsors can and should, design new transportation network improvements within established communities to avoid the creation of barriers that physically divide such communities with measures that include, but are not limited to:

- Selecting alignments within or adjacent to existing public rights-of-way.
- Designing sections above-or below-grade to avoid physical division of communities.
- Providing for direct crossings, overcrossings, or undercrossings at regular intervals for various modes of travel (e.g., pedestrians/bicyclists, vehicles).

### LU-2A Reduce Conflicts with Land Use Plans.
During planning, design, and project-level CEQA review of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, implement measures to reduce conflicts with land use plans adopted for the purpose of mitigating an environmental effect, including but not limited to:

1. Consulting with the County of San Diego and cities, and other local jurisdictions early in the planning process, to identify conflicts and address them through the facility planning and design process, and
2. Incorporating design features that would avoid or reduce such conflicts.

### Noise and Vibration

#### N-1A Implement Construction Noise Reduction Measures.
SANDAG shall, and other transportation project sponsors can and should, implement construction noise reduction measures to substantially lessen the exposure of noise sensitive receptors to construction noise levels that exceed applicable standards in the planning, design, project-level CEQA review, and construction of transportation network improvements. These measures include, but are not limited to:

- Maintain construction equipment and vehicles per manufacturers’ specifications and fit equipment with noise suppression devices (e.g., improved mufflers, equipment redesign, intake silencers, wraps, ducts, engine enclosures).
- Minimize construction equipment idling when equipment is not in use.
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<th>Mitigation Measures</th>
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<tr>
<td>• Provide buffer zones or other techniques between stationary equipment (such as</td>
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<td>generators, compressors, rock crushers, and cement mixers) and the noise receptor.</td>
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<td>• For impact tools (e.g., jack hammers, pavement breakers, rock drills), use</td>
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<td>hydraulically or electrically powered tools; where use of pneumatic tools is</td>
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<td>unavoidable, use an exhaust muffler on the compressed air exhaust. Use external</td>
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<td>jackets on the tools themselves. Use quieter procedures such as drills rather</td>
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<td>than impact equipment.</td>
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<td>• For rock-crushing or screening operations, place material stockpiles as a noise</td>
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<td>barrier blocking line-of-sight between the operations and receptors.</td>
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In addition, for pile driving or other activities generating greater than 90 dBA during construction of transportation network improvements or development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement noise reduction measures, including but not limited to:

• Erect temporary noise barriers around the noise generating activities, particularly adjacent to residential buildings;
• Implement “quiet” pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
• Monitor the effectiveness of noise attenuation measures by performing compliance noise monitoring at noise-sensitive receptors during construction.

In addition, during planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should avoid or reduce impacts associated with construction noise consistent with the above noise reduction measures.

**N-1B Implement Operational Noise Reduction Measures.**

SANDAG shall, and other transportation project sponsors can and should, implement noise reduction measures to substantially lessen the exposure of noise sensitive receptors to operational noise levels that exceed applicable standards during the planning, design, project-level CEQA review, operation, and maintenance of transportation network improvements. These measures include, but are not limited to:

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<tr>
<th>N-1B Implement Operational Noise Reduction Measures</th>
<th>Implementation Timing</th>
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Mitigation Monitoring and Reporting Program  
San Diego Forward: The Regional Plan
### Mitigation Measures

- Utilize techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials, and traffic calming measures; and

In addition, for railway projects, SANDAG shall, and other transportation project sponsors can and should, implement measures to substantially lessen noise levels that exceed FTA/FRA railway noise exposure thresholds during planning, design, and project-level CEQA review. These measures include, but are not limited to:

- Use wheel treatments such as damped wheels and resilient wheels;
- Use vehicle treatments such as vehicle skirts and undercar acoustically absorptive material;
- Establish sufficient buffer zones between railroad and receptors;
- Use sound reduction barriers such as landscaped berms and dense plantings;
- Install sound insulation treatments for impacted structures;
- Implement FRA “quiet zone” requirements in cooperation with local jurisdictions (i.e., reducing or eliminating the requirement for train locomotives to blast their horns) for Plan improvements at new and existing at-grade rail crossings; and
- New and expanded rail corridors and features such as new rail tracks and double-tracking will receive project-level noise analysis to ensure that measures are implemented to substantially lessen noise levels that exceed applicable standards.

In addition, for development projects, the County of San Diego, cities, and other local jurisdictions can and should implement noise reduction measures to meet local noise standards during the planning, design, and project-level CEQA review of development projects, including but not limited to:

- Use land use measures such as zoning, site design, and buffers to ensure that future development is noise compatible with adjacent transportation facilities and land uses; and
- Site noise-sensitive land uses away from noise-generating facilities. Once sited, orient outdoor use areas of land uses (e.g., backyards) away from adjacent noise sources to shield area with buildings, or construct noise barriers to reduce exterior noise levels.

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<th>Mitigation Measures</th>
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<td>Transportation Project Sponsor</td>
<td>Land Use Agency/Special District</td>
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**Attachment 1C**

**Mitigation Monitoring and Reporting Program**

**San Diego Forward: The Regional Plan**

[35] October 2, 2015

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Mitigation Measures

### Mitigation Measures

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#### N-4A Implement Construction Vibration Reduction Measures.
SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement measures during design, project-level CEQA review, and construction of transportation network improvements or development projects, to reduce groundborne vibration and noise levels generated by on-site construction equipment, including, but not limited to, the following:

- Predrill pile holes within 300 feet of any sensitive receptor;
- Where feasible, use soil mix wall for excavation;
- Incorporate a comprehensive construction vibration specification into all construction bid documents,
- Require contractor to assess potential for damage to buildings within 100 feet of a tunnel boring;
- Require contractor to perform a physical survey to document existing condition of a building that might incur damage; and
- If pile driving and/or other vibration-generating construction activities are to occur within 60 feet of a historic structure whose integrity would be impaired by exceeding the vibration threshold for historic structures, implement measures to reduce vibration impacts, including but not limited to:
  - Retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that would damage any historic structure, and design construction methods to not exceed the thresholds.
  - Require groundborne vibration monitoring of nearby historic structures. Implement monitoring program to detect ground settlement or lateral movement of structures in the vicinity of pile-driving activities and identify corrective measures to be taken should monitored vibration levels indicate the potential for vibration damage to historic structures.
  - Require contractor to assess potential damage to buildings within 200 feet of areas where excavation requires the use of driven piles either by impact or vibratory methods.

#### N-4B Implement Vibration-reducing Measures for Rail Operations.
SANDAG shall, and other transportation project sponsors can and should, implement vibration-reducing measures, to meet FTA vibration guidelines (FTA 2006), during the planning, design, project-level CEQA review, construction, and operation of rail projects, including, but not limited to, providing special track support systems such as floating slabs, resiliently supported ties, high-resilience fasteners, and ballast mats.
### Mitigation Measures

In addition, rail operators can and should implement groundborne vibration and noise-reducing measures, to meet applicable FTA vibration guidelines (FTA 2006), during the planning, design, project-level CEQA review, construction, and operation of rail projects, including, but not limited to, the following:

- Conduct rail grinding on a regular basis to keep tracks smooth;
- Conduct wheel truing to re-contour wheels to provide a smooth running surface and removing wheel flats; and
- To reduce groundborne noise, achieve vibration isolation of the track from underlying surface using:
  - Highly resilient direct fixation fasteners,
  - Rail suspended fastener system,
  - Isolated slab track system, and
  - Floating slab track system.

### Population and Housing

**POP-2A Design Projects to Reduce Displacement.**

SANDAG shall, and other transportation project sponsors can and should, identify project alignments during planning, design, and project-level CEQA review that avoid permanent property acquisitions that would result in substantial displacement of people or housing units. Where avoidance is not feasible, measures to reduce substantial displacement include, but are not limited to, the following:

- Selecting alignments within existing public rights-of-way.
- Designing sections above- or below-grade to avoid property acquisition that would cause displacement of people or housing units.
- Selecting alignments within properties that result in the least amount of displacement, for example, acquiring vacant or undeveloped portions of property rather portions occupied by housing units.

In addition, during planning, design, and project-level CEQA review of land development projects, the County of San Diego, cities, and other local jurisdictions can and should develop design strategies to avoid or reduce displacement of people or housing units. For development projects that would displace people or housing units, alternative designs to retain existing housing on-site, alternative project site locations, and provision of replacement housing as a mitigation measure can and should be evaluated.
### Mitigation Measures

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#### Public Services and Utilities

**PS-1A Implement Mitigation Measures for New/Expanded Public Service Facilities.**

During planning, design, and project-level CEQA review of development or public facilities projects, the County of San Diego, cities, and public service providers can and should implement mitigation measures to avoid or reduce significant environmental impacts associated with the construction of new or expanded public facilities. Mitigation measures should be implemented by public service providers directly responsible for the construction or expansion activities. Significant environmental impacts requiring mitigation may include, but are not limited to, air quality, noise, traffic, biological resources, cultural resources, GHG emissions, hydrology and water quality, and water supply.

**U-1A Implement Mitigation Measures for New/Expanded Wastewater Facilities.**

During planning, design, and project-level CEQA review of development projects, wastewater treatment facilities, and collection systems, the County of San Diego, cities, and wastewater management agencies can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of wastewater facilities and collection systems. Mitigation measures should be implemented by wastewater management agencies directly responsible for the approval and construction of new or expanded collection systems or treatment plants. Significant environmental impacts requiring mitigation may include but are not limited to air quality, noise, traffic, biological resources, energy, greenhouse gas emissions, hydrology and water quality, and water supply.

**U-2A Implement Mitigation Measures for New/Expanded Storm Water Drainage Facilities.**

During planning, design, and project-level CEQA review of development projects or storm water projects, the County of San Diego, cities, and storm water management agencies can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of storm water facilities. Mitigation measures should be implemented by storm water management agencies directly responsible for the construction of new or expanded storm water facilities. Significant environmental impacts requiring mitigation may include, but are not limited to, air quality, noise, traffic, biological resources, cultural resources, energy, greenhouse gas emissions, hydrology and water quality, and water supply.

For transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, be required to implement storm water BMPs during planning, design, project-level CEQA review, and project construction. Measures include, but are not limited to, capturing rainwater for on-site reuse, such as for landscape irrigation.
### Mitigation Measures

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<tr>
<td><strong>U-3A Implement Mitigation Measures for New/Expanded Solid Waste Facilities.</strong></td>
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<td>During planning, design, and project-level CEQA review of solid waste facility projects, solid waste management agencies can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of landfills. Mitigation measures should be implemented by solid waste management agencies directly responsible for the construction of new or expanded solid waste facilities. Significant environmental impacts requiring mitigation may include, but are not limited to, air quality, traffic, and water quality.</td>
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<tr>
<td><strong>U-3B Reduce Construction Waste.</strong></td>
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<td>Land Use Agency/Special District</td>
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<tr>
<td>During planning, design, and project-level CEQA review, and prior to the construction or demolition of transportation network improvement projects and development projects, SANDAG shall, and other transportation project sponsors, the County of San Diego, cities, and other local jurisdictions can and should, implement measures to reduce construction waste, including but not limited to the following:</td>
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<td>• Ensure that source reduction techniques and recycling measures are incorporated into project construction/demolition; and</td>
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<td>• Reuse and/or recycle construction and demolition waste.</td>
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<td><strong>U-3C Implement Green Building Measures.</strong></td>
<td>Post-Construction</td>
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<td>During planning, design, and construction of development projects, the County of San Diego, cities, and other local jurisdictions can and should integrate green building waste management measures such as those identified in the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED), Energy Star Homes, Green Point Rated Homes, and the California Green Builder Program. These measures include, but are not limited to, the following:</td>
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<td>• Reuse and minimize C&amp;D debris and increase diversion of C&amp;D waste from landfills to recycling facilities;</td>
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<td>• Prepare and apply a waste management plan that promotes C&amp;D diversion;</td>
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</tr>
<tr>
<td>• Implement source reduction through (1) using materials that are more durable and easier to repair and maintain, (2) designing to generate less scrap material through dimensional planning, (3) increasing recycled content, (4) using reclaimed materials, and (5) using structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.);</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Reuse existing structures and shells in renovation projects;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Design for flexibility through the use of moveable walls, raised floors, modular furniture, moveable task lighting, and other reusable building components; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Develop an indoor recycling program and space.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Water Supply

#### WS-1A Implement Water Conservation Measures.
SANDAG shall, and other transportation project sponsors can and should, implement feasible water conservation measures during planning, design and project-level CEQA review, construction, operations, and maintenance of transportation network improvements, including, but not limited to, the following:

- Comply with all prevailing state, regional, and local government plans, laws, and policies regarding water conservation and efficiency.
- Install drip or other water-conserving or weather-based irrigation systems for landscaping.
- Install native plant species and noninvasive drought-tolerant/low-water-use plants in landscaping, consistent with the most recent state, regional, and local government plans, laws, and policies.

In addition, the County of San Diego, cities, and other local jurisdictions can and should incorporate water conservation measures, including, but not limited to, those measures listed above, and measures and policies regarding water efficiency, conservation, capture, and reuse identified by water suppliers in state, regional, and local plans, laws, and policies, and in their own plans and ordinances, during planning, design, and project-level CEQA review of development projects.

#### WS-1B Use Reclaimed Water.
SANDAG shall, and other transportation project sponsors can and should, incorporate use of reclaimed water (also known as recycled water) during planning, design, project-level CEQA review, construction, operations, and maintenance of transportation network improvements to reduce the use of potable water.

The County of San Diego, cities, and other local jurisdictions can and should incorporate use of reclaimed water as a measure during planning, design, and project-level CEQA review of development projects, including, but not limited to, the following:

- On-site water recycling.
- Recycled water to fill lakes, ponds, and ornamental fountains; for irrigation; and to mix concrete and control dust at construction sites.
- Recycled water for certain industrial processes and for flushing toilets and urinals in nonresidential buildings.
- Recycled water for street sweeping purposes.
WS-1C Ensure Adequate Water Supply.
During planning, design, and project-level CEQA review for development projects, the County of San Diego, cities, and other local jurisdictions can and should ensure that adequate water supply will be available to meet or satisfy projected water demands, consistent with applicable UWMPs, Master Plans, and General Plan projections of water supply and demand. This can and should be documented in the form of an SB 610 Water Supply Assessment, an SB 221 Water Supply Verification, or other capacity analysis.

\[
\begin{array}{|c|c|c|c|}
\hline
\text{Mitigation Measures} & \text{Planning/Design/CEQA Review} & \text{Grading/Construction} & \text{Post-Construction} \\
\hline
WS-1C Ensure Adequate Water Supply. & X & & \\
\hline
\end{array}
\]

WS-2A Mitigation Measures for New or Expanded Water Facilities.
SDCWA, the County of San Diego, cities, and other local jurisdictions will be responsible for the construction of new water facilities, or the expansion of existing facilities, to adequately meet forecasted capacity needs. Mitigation measures should be implemented by water management agencies directly responsible for the construction of new or expanded water facilities. During the planning, design, and project-level CEQA review process for individual water facilities, these agencies can and should adopt measures to avoid or reduce significant environmental impacts associated with the construction or operation of such facilities. Such measures should include those necessary to avoid or reduce significant impacts including, but not limited to, air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology, and water quality. Many of these measures are described at a program level of detail in the SDCWA Water Supply Master Plan Update EIR (SDCWA 2013c).

\[
\begin{array}{|c|c|c|}
\hline
\text{Mitigation Measures} & \text{Planning/Design/CEQA Review} & \text{Grading/Construction} \\
\hline
WS-2A Mitigation Measures for New or Expanded Water Facilities. & X & X \\
\hline
\end{array}
\]
Appendix B
Air Quality Planning and Transportation Conformity

Appendix Contents
Background
Transportation Conformity: Modeling Procedures
Motor Vehicle Emissions Modeling
Exempt Projects
Implementation of Transportation Control Measures (TCMs)
Interagency Consultation Process and Public Input
Revenue Constrained Scenario Project Tables
Air Quality Planning and Transportation Conformity

Background
The federal Clean Air Act (CAA) (42 U.S.C. §7401, et seq.), which was last amended in 1990, requires the United States Environmental Protection Agency (U.S. EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. Pursuant to California Health & Safety Code §39606, California has adopted state air quality standards that are more stringent than the NAAQS. Areas with levels that violate the standard for specified pollutants are designated as non-attainment areas.

The U.S. EPA requires that each state containing non-attainment areas develop plans to attain the NAAQS by a specified attainment deadline. The attainment plan is called the State Implementation Plan (SIP). The San Diego County Air Pollution Control District (APCD) prepares the San Diego portion of the California SIP. Once the standards are attained, further plans – called Maintenance Plans – are required to demonstrate continued maintenance of the NAAQS.

Pursuant to Section 176(c) of the federal CAA (42 USC §7506(c)), the San Diego Association of Governments (SANDAG) and the United States Department of Transportation (U.S. DOT) must make a determination that the Regional Transportation Plan (RTP) and the Regional Transportation Improvement Program (RTIP) conform to the SIP for air quality. Conformity to the SIP means that transportation activities will not create new air quality violations, worsen existing violations, or delay the attainment of the NAAQS. Regulations regarding conformity to the SIP are specific to the NAAQS. The RTP’s impacts on California Ambient Air Quality Standards (CAAQS) are discussed and analyzed in the San Diego Forward: The Regional Plan environmental impact report, Section 4.3.

On April 15, 2004, the U.S. EPA designated the San Diego air basin as non-attainment for the 1997 Eight-Hour Ozone Standard. This designation took effect on June 15, 2004. However, several areas that are tribal lands in eastern San Diego County were excluded from the non-attainment designation.

The air basin initially was classified as a basic non-attainment area under Subpart 1 of the CAA, and the attainment date for the 1997 Eight-Hour Ozone Standard was set as June 15, 2009. In cooperation with SANDAG, the San Diego APCD developed an Eight-Hour Ozone Attainment Plan for the 1997 standard, which was submitted to the U.S. EPA on June 15, 2007. (The Regional Plan may be found at: sdapcd.org/planning/8-Hour-O3-Attain-Plan.pdf.) Emissions budgets set an upper limit which on-road mobile sources are permitted to emit. The budgets in the Eight-Hour Ozone Attainment Plan for San Diego County were found adequate for transportation conformity purposes by the U.S. EPA, effective June 9, 2008.

However, on April 27, 2012, in response to a court decision (South Coast Air Quality Management District, et al., v. EPA, 472 F.3d 882 (D.C. Cir. 2006) reh’g denied 489 F.3d 1245), the U.S. EPA ruled that the San Diego basic non-attainment area be reclassified as a Subpart 2, moderate non-attainment area, with an attainment deadline of June 15, 2010. This reclassification became effective on June 13, 2012. Air quality data for 2009, 2010, and 2011 demonstrated that the San Diego air basin attained the 1997 ozone standard; APCD prepared a Maintenance Plan, with a request for redesignation to attainment/maintenance. (The Maintenance Plan may be found at: sdapcd.org/planning/8_Hour_O3_Maint-Plan.pdf.) On December 6, 2012, the California Air Resources Board (ARB) approved the Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County for submittal to the U.S. EPA as a SIP revision. Effective July 5, 2013, the U.S. EPA approved California’s
request to redesignate the San Diego County ozone non-attainment area to attainment for the 1997 Eight-Hour Ozone Standard and the Maintenance Plan for continuing to attain this standard for ten years beyond redesignation. On May 21, 2012, the U.S. EPA designated the San Diego air basin as a non-attainment area for the new 2008 Eight-Hour Ozone Standard and classified it as a marginal area with an attainment date of December 31, 2015. This designation became effective on July 20, 2012. SANDAG determined conformity to the new standard on May 24, 2013, using the model approved by the U.S. EPA to forecast regional emissions (EMFAC 2011). The U.S. DOT, in consultation with the U.S. EPA, made its conformity determination on June 28, 2013. (Letter may be found at: sandag.org/uploads/projectid/projectid_410_16214.pdf.) For this non-attainment designation, tribal areas that were previously excluded are now included as part of the San Diego region non-attainment designation.1 In addition, the U.S. EPA final rule also provides for the revocation of the 1997 Eight-Hour Ozone NAAQS for transportation conformity purposes effective July 20, 2013. In a D.C. Circuit Court decision on December 23, 2014 (NRDC v. EPA, No. 12-1321) it was determined that the attainment date for marginal areas would be set for July 20, 2015.

The San Diego region also has been designated by the U.S. EPA as a federal maintenance area for the Carbon Monoxide (CO) standard. On November 8, 2004, ARB submitted the 2004 revision to the California SIP for CO to the U.S. EPA. Effective January 30, 2006, the U.S. EPA has approved this Maintenance Plan as a SIP revision.

Transportation Conformity: Modeling Procedures

Introduction

SANDAG has developed the Revenue Constrained Scenario for San Diego Forward: The Regional Plan (Regional Plan) which serves as the basis for the required air quality conformity analysis. Conformity of the 2014 RTIP Amendment No. 7 has been determined simultaneously for consistency purposes. Tables B.9 and B.11 include the conformity analysis for both the 2050 Revenue Constrained Regional Plan and the 2014 RTIP Amendment No. 7. The Regional Plan provides information on revenue assumptions and the Revenue Constrained Scenario (Chapter 3). In addition, this conformity determination fulfills the requirement of SB 375, which requires a Sustainable Communities Strategy that allows for compliance with Section 176 of the federal CAA. (California Government Code, Section 65080(b)(2)(B)(viii).)

Growth forecasts

Every three to five years, SANDAG produces a long-range forecast of population, housing, and employment growth for the San Diego region. The most recent forecast is the Series 13, 2050 Regional Growth Forecast (accepted for planning purposes by the SANDAG Board on October 25, 2013), which was utilized in the development of the Regional Plan and the 2014 RTIP Amendment No. 7. (Item No. 8, sandag.org/uploads/meetingid/meetingid_3489_16764.pdf.)

The forecast process relies upon three integrated forecasting models. The first model, the Demographic and Economic Forecasting Model (DEFM), provides a detailed econometric and demographic forecast for the entire region. The second model, the Production, Exchange, Consumption, Allocation Model (PECAS), considers land economics and the potential for redevelopment in determining subregional allocation of employment and housing. The third model, the Urban Development Model (UDM), allocates the results of the first two models to Master Geographic Reference Areas (MGRA) based upon the current plans and policies of the jurisdictions. MGRAs are the base unit of geography for SANDAG subregional land use models. Similar in size to Census blocks or block groups, MGRAs are designed to nest within other administrative boundaries such as Census tracts, school districts, and jurisdictions among others, allowing MGRA-level forecast data to be aggregated up to larger areas.
On August 6, 2014, SANDAG consulted with the San Diego Region Conformity Working Group (CWG), comprised of representatives of SANDAG, Caltrans, SDAPCD, U.S. EPA, U.S. DOT, and ARB, on the use of the Series 2013, 2050 Regional Growth Forecast (2013) for the air quality conformity analysis of the Regional Plan and the 2014 RTIP Amendment No. 7 conformity redetermination. Previously, both the U.S. DOT and the U.S. EPA concurred that approved local land use plans should be used as input in the air quality conformity process and concurred that these plans have been appropriately incorporated into the Series 2013, 2050 Regional Growth Forecast. Figure B.1 and Table B.1 show the regional population, jobs, and housing growth forecast for the San Diego region through 2050.

**Figure B.1**
San Diego Regional Population, Jobs, and Housing Forecast

![Graph showing population, jobs, and housing growth from 1970 to 2050.](source)

Source: Series 13, 2050 Regional Growth Forecast, SANDAG, October 2013

**Table B.1**
San Diego Regional Population and Employment Forecast

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3,143,429</td>
<td>1,450,913</td>
</tr>
<tr>
<td>2020</td>
<td>3,435,713</td>
<td>1,624,124</td>
</tr>
<tr>
<td>2035</td>
<td>3,853,698</td>
<td>1,769,938</td>
</tr>
<tr>
<td>2050</td>
<td>4,068,759</td>
<td>1,911,405</td>
</tr>
</tbody>
</table>

Source: Series 13, 2050 Regional Growth Forecast, SANDAG, October 2013

The Series 13, 2050 Regional Growth Forecast is based largely upon the adopted general plans and community plans, and policies of the 18 cities and the County. Because many of the local general plans have horizon years of 2030 – 20 years before the 2050 Growth Forecast horizon year, the later part of the forecast was developed in collaboration with each of the local jurisdictions through an iterative process that allowed each city to provide their projections for
land uses in those later years. The planning assumptions used for the Regional Plan were less than five years old at the
time the conformity analysis began. Federal RTP guidelines require that the Regional Plan cover a forecast period of a
minimum of 20 years.

**Transportation modeling**

SANDAG uses a calibrated and validated activity-based model (ABM) to support the development of the Regional
Plan. An ABM simulates individual and household transportation decisions that comprise their daily travel itinerary. It
predicts whether, where, when, and how people travel outside their home for activities such as work, school,
shopping, healthcare, and recreation.

ABMs are becoming the standard travel demand modeling technology used by large Metropolitan Planning
Organizations (MPOs), including the Southern California Association of Governments, and the Bay Area Metropolitan
Transportation Commission. These models allow for a more nuanced analysis of complex policies and projects. The
powerful analytic capabilities of an ABM are particularly helpful in evaluating social equity, carpooling, transit access,
parking conditions, tolling, and pricing. Because an ABM tracks the characteristics of each person, the model can be
used to analyze the travel patterns of a wide range of socio-economic groups. For example, a household with many
members may be more likely to carpool, own multiple vehicles, and share shopping responsibilities.

ABM outputs are used as inputs for regional emissions forecasts. The estimates of regional transportation-related
emissions analyses conducted for the Regional Plan meet the requirements established in the Transportation
Conformity Regulation (40 CFR §93.122(b) and §93.122(c)). These requirements relate to the procedures to
determine regional transportation-related emissions, including the use of network-based travel models, methods to
estimate traffic speeds and delays, and the estimation of vehicle miles traveled (VMT).

The regionally significant projects, and the timing for when they are expected to be open to traffic in each analysis
year, are documented in Tables B.13 - B.15. The design concept and scope of projects allows adequate model
representation to determine intersections with regionally significant facilities, route options, travel times, transit
ridership, and land use.

This document describes the key modeling units, ABM model flow, the San Diego residents travel module, highway
and transit networks, data sources, and emissions modeling.

**Key modeling units**

An ABM simulates individual and household travel decisions through tours, that is, a journey that begins and ends at
home. A tour includes a chain of trips (segments of travel with a given origin and destination). The advantage of
modeling tours and trips hierarchy is to ensure spatial, temporal, and modal consistency and integrity across trips
within a tour.

To simulate trips and tours made by individuals and households, the SANDAG ABM includes a total of eight
person-types, shown in Table B.2. The person-types are mutually exclusive with respect to age, work status, and
school status.
Table B.2  
**Person Types**

<table>
<thead>
<tr>
<th>Number</th>
<th>Person-Type</th>
<th>Age</th>
<th>Work Status</th>
<th>School Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Full-time worker³</td>
<td>18+</td>
<td>Full-time</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Part-time worker</td>
<td>18+</td>
<td>Part-time</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>College student</td>
<td>18+</td>
<td>Any</td>
<td>College+</td>
</tr>
<tr>
<td>4</td>
<td>Non-working adult</td>
<td>18 – 64</td>
<td>Unemployed</td>
<td>None</td>
</tr>
<tr>
<td>5</td>
<td>Non-working senior</td>
<td>65+</td>
<td>Unemployed</td>
<td>None</td>
</tr>
<tr>
<td>6</td>
<td>Driving age student</td>
<td>16 – 17</td>
<td>Any</td>
<td>Pre-college</td>
</tr>
<tr>
<td>7</td>
<td>Non-driving student</td>
<td>6 – 15</td>
<td>None</td>
<td>Pre-college</td>
</tr>
<tr>
<td>8</td>
<td>Pre-schooler</td>
<td>0 – 5</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Further, workers are stratified by their occupation to take full advantage of information provided by the land use and demographic models. Table B.3 outlines the worker categories. These models are used to segment destination choice attractiveness for work location choice, based on the occupation of the worker.

Table B.3  
**Occupation Types**

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Management, Business, Science, and Arts</td>
</tr>
<tr>
<td>2</td>
<td>Services</td>
</tr>
<tr>
<td>3</td>
<td>Sales and Office</td>
</tr>
<tr>
<td>4</td>
<td>Natural Resources, Construction, and Maintenance</td>
</tr>
<tr>
<td>5</td>
<td>Production, Transportation, and Material Moving</td>
</tr>
<tr>
<td>6</td>
<td>Military</td>
</tr>
</tbody>
</table>

The SANDAG ABM assigns one of the activity types to each out-of-home location that a person travels to in the simulation, shown in Table B.4. The activity types are grouped according to whether the activity is mandatory, maintenance, or discretionary. The classification scheme of activities into the three categories helps differentiate the importance of the activities. Mandatory includes work and school activities. Maintenance includes household-related activity such as drop-off and pick-up of children, shopping, and medical appointments. Discretionary includes social and recreational activities. To determine which person-types can be used for generating each activity type, the model assigns eligibility requirements. For example, a full-time worker will generate mandatory work activities while a non-working adult, or senior, is eligible for non-mandatory activities. The classification scheme of each activity type reflects the relative importance or natural hierarchy of the activity, where work and school activities are typically the most inflexible in the person’s daily travel itinerary.
The SANDAG ABM models a full travel day of activity broken into one-half hour intervals. These one-half hour increments begin at 3 a.m. and end at 3 a.m. the next day, though the hours between 1 a.m. and 5 a.m. are aggregated to reduce computational burden. The ABM ensures temporal integrity so that no activities are scheduled with conflicting time windows, with the exception of short activities/tours that are completed within a one-half hour increment. The ABM assigns auto and transit traffic at five discrete time-of-day periods aggregated from the five half-hour intervals shown in Table B.5.

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Begin Time</th>
<th>End Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Early</td>
<td>3:00 a.m.</td>
<td>5:59 a.m.</td>
</tr>
<tr>
<td>2</td>
<td>A.M. Peak</td>
<td>6:00 a.m.</td>
<td>8:59 a.m.</td>
</tr>
<tr>
<td>3</td>
<td>Midday</td>
<td>9:00 a.m.</td>
<td>3:29 p.m.</td>
</tr>
<tr>
<td>4</td>
<td>P.M. Peak</td>
<td>3:30 p.m.</td>
<td>6:59 p.m.</td>
</tr>
<tr>
<td>5</td>
<td>Evening</td>
<td>7:00 p.m.</td>
<td>2:59 a.m.</td>
</tr>
</tbody>
</table>

The SANDAG ABM uses three-tier zone systems shown in Table B.6: Zone System. The Master-Geographic Reference Area (MGRA) zone system is used for transit access and calculations, and location choice models; the Traffic Analysis
The TAZ system is used for highway path building and assignment; and the pseudo-TAZ called Transit Access Point (TAP) is used for transit path building and assignment. The 23,000 MGRAs are roughly equivalent to census block groups. The ABM uses generalized transit stops as TAPs, and relies on the traffic assignment software to generate TAP-TAP level of service (LOS) matrices (also known as “skims”) such as in-vehicle time, first wait, transfer wait, and fare for transit calculation at the MGRA level. A custom-built software calculates walk access time from MGRA to TAP through paths from an all-street active transportation network including bike paths and walkways for non-motorized travel, and build paths following the Origin MGRA – Boarding TAP – Alighting TAP – Destination MGRA patterns. Figure B.2: Example MGRA - TAP Transit Accessibility shows a graphical depiction of MGRA-TAP transit paths. It displays potential walk paths from an origin MGRA through three potential boarding TAPs (two of which are local bus, and one of which is rail), with three potential alighting TAPs at the destination end.

<table>
<thead>
<tr>
<th>Zone System</th>
<th>Description</th>
<th>Number of Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGRA</td>
<td>Master-Geographic Reference Area</td>
<td>23,000</td>
</tr>
<tr>
<td>TAZ</td>
<td>Traffic Analysis Zone</td>
<td>4,996</td>
</tr>
<tr>
<td>TAP</td>
<td>Transit Access Point</td>
<td>2,500</td>
</tr>
</tbody>
</table>

Figure B.2
Example MGRA – TAP Transit Accessibility

The ABM includes 26 modes available to residents, including auto by occupancy, toll/non-toll choice and lanes for high occupancy vehicle (HOV) or non-HOV, walk and bike modes, and walk and drive access to five different transit line-haul modes. Pay modes are those that involve paying a choice or “value” toll.
Table B.7 lists the trip modes defined in the SANDAG ABM.

To model transit flow, the ABM uses five transit line-haul modes: (1) Commuter Rail (COASTER), (2) Light Rail Transit (LRT) (including Trolley, SPRINTER, and Streetcar), (3) Bus Rapid Transit (BRT)/Rapid Bus, (4) Express Bus, and (5) Local Bus. The mode of access to transit includes walk, park & ride (PNR), and kiss & ride (KNR or drop-off).

<table>
<thead>
<tr>
<th>Number</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Drive Alone (Non-Toll)</td>
</tr>
<tr>
<td>2</td>
<td>Drive Alone (Toll)</td>
</tr>
<tr>
<td>3</td>
<td>Share Ride 2 Person (Non-Toll, Non-HOV)</td>
</tr>
<tr>
<td>4</td>
<td>Share Ride 2 Person (Non-Toll, HOV)</td>
</tr>
<tr>
<td>5</td>
<td>Share Ride 2 Person (Toll, HOV)</td>
</tr>
<tr>
<td>6</td>
<td>Share Ride 3+ Person (Non-Toll, Non-HOV)</td>
</tr>
<tr>
<td>7</td>
<td>Share Ride 3+ Person (Non-Toll, HOV)</td>
</tr>
<tr>
<td>8</td>
<td>Share Ride 3+ Person (Toll, HOV)</td>
</tr>
<tr>
<td>9</td>
<td>Walk-Local Bus</td>
</tr>
<tr>
<td>10</td>
<td>Walk-Express Bus</td>
</tr>
<tr>
<td>11</td>
<td>Walk-BRT</td>
</tr>
<tr>
<td>12</td>
<td>Walk-Light Rail</td>
</tr>
<tr>
<td>13</td>
<td>Walk-Heavy Rail</td>
</tr>
<tr>
<td>14</td>
<td>PNR-Local Bus</td>
</tr>
<tr>
<td>15</td>
<td>PNR-Express Bus</td>
</tr>
<tr>
<td>16</td>
<td>PNR-Bus Rapid Transit (BRT)/Rapid Bus</td>
</tr>
<tr>
<td>17</td>
<td>PNR-Light Rail</td>
</tr>
<tr>
<td>18</td>
<td>PNR-Heavy Rail</td>
</tr>
<tr>
<td>19</td>
<td>KNR-Local Bus</td>
</tr>
<tr>
<td>20</td>
<td>KNR-Express Bus</td>
</tr>
<tr>
<td>21</td>
<td>KNR-BRT</td>
</tr>
<tr>
<td>22</td>
<td>KNR-Light Rail</td>
</tr>
<tr>
<td>23</td>
<td>KNR-Heavy Rail</td>
</tr>
<tr>
<td>24</td>
<td>Walk</td>
</tr>
<tr>
<td>25</td>
<td>Bike</td>
</tr>
<tr>
<td>26</td>
<td>School Bus (only available for school purpose)</td>
</tr>
</tbody>
</table>
ABM model flow
To simulate San Diego residents and non-residents travel, and freight travel, the SANDAG ABM includes several models and steps.

Figure B.3 outlines the overall flow of the SANDAG ABM. It starts with building highway and transit networks in the traffic assignment software followed by highway assignment to create congested highway and transit travel times. A parallel step is to create a year-specific active transportation network and generate walking accessibility measures between MGRAs, between MGRA and TAP, and bike accessibility measures between MGRAs and between TAZs. The congested highway and transit skims, and the walking and biking accessibility measures, are inputs to the simulated models. The congested highway skims are also inputs to the aggregate models. Once the simulated and aggregated models generate trips by residents or various travelers, the ABM aggregates the vehicle trips from MGRA to TAZ to TAZ matrices by time of day, by toll and non-toll, and by vehicle class, and assigns the vehicle trips to the highway network. The highway assignment generates the congested networks by time of day. The ABM then skims the congested networks to provide accessibility for the next iteration of the simulated and aggregated models. The process iterates three feedback loops. The last iteration assigns both highway and transit trips and creates skims for land use models. The outputs from the final step are used to generate input for EMFAC emissions modeling.

At the heart of the SANDAG ABM is the San Diego County residents’ travel module. It simulates San Diegan’s daily travel choices. In addition to the residents’ travel, there are trips made by visitors, commercial vehicles, and freight transportation. A number of special travel models (commercial vehicle model, truck model, air passenger model, external trip model, visitor model, and crossborder model) account for these other sources of transportation demand. The models are run in parallel with the residents’ travel module. Trips generated from the simulated and aggregate models are summed up to an auto trip matrix and transit trip matrix by time of day by mode, and assigned to highway and transit networks.

After network assignment, the EMFAC model is used to generate emissions summaries based on the inputs generated by the post processing of highway assignment outputs.

San Diego residents travel module
The San Diego residents’ travel module is comprised of numerous interacting components called “sub-modules.” It starts with generating a representative population for the San Diego region. Once a representative population is created, the model predicts long-term and medium-term decisions such as a choice of work or school location and a household’s choice of number of cars to own. Next, each person’s day is scheduled, taking into account the priority of various activities and interaction among the household members. Once all journeys to and from home have been scheduled, the model predicts specific travel details such as mode, the number of stops to make, where to stop, and when to depart from each stop to continue the tour. The final step of the ABM is traffic assignment where trips are summarized by traffic analysis zones and assigned to the transportation network.
The following section discusses the sub-modules, in the order that each sub-module is taken within the San Diego residents’ travel module.

**Step 1: Population synthesis (build a representative population that looks like San Diego)**
The first step is to create a ‘synthetic’ population of San Diego County. A synthetic population is a table that has a record for every individual and household, with the individual’s and the household’s characteristics. For example, if there are 41,000 18-year-old males in the region in 2050, there would be approximately 41,000 records in the table for males age 18, with each record also having other characteristics such as school enrollment and labor force participation status. Taken as a whole, this synthetic population represents the decision-makers whose travel choices the model will simulate in later steps. For each simulation year, a full population is synthesized to match the forecasted socio-economic and housing characteristics of each part of the region at the zonal level. These forecasts, a key ABM input, come from the land use model. Synthesis works by replicating a sample of census records (each containing complete household and individual characteristics) and placing them around the region in such a way that the forecasted characteristics of each zone are matched.

**Step 2: Work and school location (assign a work location to workers and a school location to students)**
The second step predicts where each individual will go to work or school, if applicable. The work and school location sub-module simulates each worker’s choice of work location, taking into account many factors, including ease-of-travel and the number of employees by occupation type in each location. The sub-module also simulates each student’s choice of school, taking into account factors that include the distance from home to school, school enrollment, and district boundaries. The results from this step affect later travel choices significantly because of the prominent role that workplace and school usually play in the itinerary of workers and students.

**Step 3: Determine certain mobility characteristics of individuals and households**
This step predicts the number of automobiles each household owns, whether each household owns a toll transponder, and whether worker parking costs are employer-reimbursed. The sub-module assigns each household zero cars, one car, two cars, three cars, or ‘four or more’ cars, taking into account a number of criteria, including household size, income, number of drivers, and how easy it is to reach destinations from the household’s place of residence. This step sets certain mobility characteristics that influence how people travel.

**Step 4: Schedule the day**
The fourth step begins by predicting a ‘daily activity’ pattern for each individual. A daily activity pattern is a theme that dictates an individual’s schedule. A ‘mandatory’ pattern means that an individual travels to work and/or school, and then schedules other activities around work/school. An ‘at-home’ pattern means that an individual’s daily schedule involves no travel in the region. A ‘non-mandatory’ pattern means that an individual’s daily schedule involves traveling, but only to destinations other than work or school. The pattern-type of other household members influences an individual’s daily pattern type. For example, if a child stays home from school, a working parent might be more likely to stay home from work as well.

Once the sub-module selects an individual’s daily activity pattern, it schedules the tours that he or she will take. Recall that a tour is a journey that begins and ends at home, and it can include stops at other destinations on the way to or from the primary destination. The ABM deals with three main categories of tours: (1) mandatory tours, (2) joint tours, and (3) non-mandatory tours. Mandatory tours have work or school as the primary destination. Joint tours involve out-of-home activities that multiple members of a household partake in together. Non-mandatory tours involve purposes other than work or school that an individual undertakes independent of other members of his or her
The sub-module schedules each tour type by predicting how many tours of that type there are, who will participate in the tour, where the main destination is, and when to depart and arrive (see Figure B.4).

For individuals assigned a ‘mandatory’ activity pattern, the sub-module first assigns the number of work tours and/or school tours they will make. After the number of these mandatory tours has been determined, the sub-module selects the time of departure from and arrival back home for each tour.

After scheduling the mandatory tours, the sub-module calculates time remaining for other tours. Remaining intervals of time are called “residual time windows,” and other tours can only be scheduled in these open slots (see Figure B.5 for an example) to guarantee temporal consistency.

In time remaining after mandatory tours are scheduled, the sub-module determines the number of joint tours to be made for each household. It only schedules joint tours in the time windows that overlap between individuals after it accounts for mandatory activities. After the number and purpose of these joint tours has been determined, the sub-module decides which household members will participate in each joint tour and whether the joint tour must involve a combination of children and adults. The sub-module then chooses a specific destination for the tour and the specific times when tour participants will depart from and arrive back home together. Next, ‘non-mandatory’ tours are scheduled. For each household, the sub-module decides what other tours need to be made for the purpose of household ‘maintenance’ activities such as shopping. These tours are assigned to specific household members to carry out individually. For the person who is assigned each maintenance tour, the model selects a specific destination and schedules the tour to take place in a time window that mandatory tours and joint tours have left open. Finally, in what time remains, the model decides whether each individual will take non-mandatory ‘discretionary’ tours. These low-priority tours involve activities related to recreation, eating out, and social functions. Discretionary tours can only
take place in time windows that remain after all other tours have been scheduled. The sub-module chooses a specific
destination and departure/arrival combination for each discretionary tour a person makes.

Step 5: Make tour and trip-level decisions
The ABM then selects more detailed characteristics of each tour for every traveler. This step fills in travel details after
the major aspects of the day have been scheduled. Tour characteristics that need to be determined include: primary
mode of the tour, how many times to stop, where to stop, and when to depart from each stop to continue the tour. Figure B.6 includes the available modes and mode hierarchy. After tour characteristics are set, the sub-module
determines the mode of each trip (conditional upon tour mode). Recall that trips are segments of tours that have a
given origin and destination. If the trip mode involves an automobile and the destination is a parking-constrained
area, then the model chooses a parking location for the traveler at the trip destination.

Figure B.6
Tour and Trip Modes

Step 6: Aggregating and assigning auto and transit trips
The previous step provided travel details for each person down to the trip level. In this final step, the model sums all
trips taken by individuals in San Diego County along with trips generated by other models that represent special
categories of travel within the region that are not covered by the ABM. The model aggregates auto trips in TAZ to
TAZ matrices by time of day and assigns trips to the highway network, and aggregates transit trips in TAP to TAP
matrices by time of day and assigns to the transit network.

SANDAG loads traffic using the Multimodal Multiclass Assignment function of the traffic assignment software.
Multiclass assignment allows SANDAG to assign the eight vehicle modes (drive alone non-toll, drive alone toll, share
ride 2 non-toll non HOV, share ride 2 non-toll HOV, share ride 2 toll HOV, share ride 3+ non-toll non HOV, share ride
3+ non-toll HOV, and share ride 3+ toll HOV) plus the six truck toll, and non-toll by truck class modes (light-heavy
duty non-toll/toll, medium-heavy duty non-toll/toll, and heavy-heavy duty non-toll/toll) in one combined procedure.

The highway assignment model works by finding roads that provide the shortest travel impedance between each
zone pair. Trips between zone pairs are then accumulated on road segments making up minimum paths. Highway
impedances consider posted speed limits, signal delays, congestion delays, and costs. The model computes congestion delays for each segment based on the ratio of the traffic volume to roadway capacity. Motorists may choose different paths during peak hours, when congestion can be heavy, and off-peak hours, when roadways are typically free flowing. For this reason, traffic is assigned separately for five time periods (as defined in the Key Modeling Units section). Vehicle trip tables for each scenario reflect increased trip-making due to population growth and variations in travel patterns due to the alternative transportation facilities/networks proposed. Customized programs process outputs from highway assignment and generate total VMTs by vehicle class, and percentage of VMTs by speed bin and by vehicle class. This information is input to the EMFAC program to generate emissions summaries.

For transit assignment, traffic assignment software assigns TAP to TAP transit trips to the network. Altogether, 75 separate transit assignments are produced for five time periods: (1) walk, (2) park & ride, (3) kiss & ride, (4) auto access, and (5) line-haul modes. These individual assignments are summed to obtain total transit ridership forecasts.

Model inputs
The SANDAG ABM utilizes a variety of data as inputs. Besides the growth forecast inputs (used to provide existing and planned land use and demographic characteristics) there are three major inputs: (1) highway networks used to describe existing and planned roadway facilities, (2) transit networks used to describe existing and planned public transit service, and (3) an active transportation network used to describe non-motorized bicycle and pedestrian facilities.

The regionally significant projects, and the years they are expected to open to traffic for each analysis year, are documented in Tables B.13 - B.15. The design concept and scope of projects allow adequate model representation to determine intersections with regionally significant facilities, route options, travel times, transit ridership, and land use. The VMT for non-regionally significant federal projects is also accounted for in the regional emissions analysis.

Highway networks
The regional highway networks in the Regional Plan and 2014 RTIP Amendment No. 7 include all roads classified by local jurisdictions in their general plan circulation elements. These roads include freeways, expressways, and the Regional Arterial System (RAS). The RAS consists of all conventional state highways, prime arterials, and selected major streets. In addition, some local streets are included in the networks for connectivity between TAZs.

The route improvements and additions in the Regional Plan and 2014 RTIP Amendment No. 7 are developed to provide adequate travel service that is compatible with adopted regional policies for land use and population growth. All regionally significant projects are included in the quantitative emissions analysis. These include all state highways, all proposed national highway system routes, all regionally significant arterials, and all "other principal arterials" functionally classified by the Federal Highway Administration (FHWA). These include both federal and non-federal regionally significant projects.

The networks also account for programs intended to improve the operation of the highway system, including HOV lanes, Managed Lanes, and ramp metering. Existing and proposed toll facilities also are modeled to reflect time, cost, and capacity effects of these facilities. State Route (SR) 125 South, SR 11, SR 241, and additional lanes on Interstate 15 (I-15) north of SR 78, and additional lanes on I-5 north of Vandegrift Boulevard, are modeled toll facilities included in the Revenue Constrained Plan for the San Diego region.

In addition, several Managed/HOV lanes are included in the Revenue Constrained Plan (Table B.14). Facilities with proposed Managed Lanes include I-5, I-15, I-805, SR 52, SR 54, SR 78, SR 94, and SR 125. Managed Lanes are defined as reversible HOV routes and HOV routes with two or more lanes in the peak direction. Additionally, one-lane
HOV facilities that operate as two-person carpool lanes in the earlier years of the Regional Plan transition to Managed Lanes by 2035. It is assumed that the excess capacity not utilized by carpools and transit on these facilities would be managed so that single occupant vehicles could use these lanes under a pricing mechanism. Traffic flows would be managed so that the facility would operate at Level of Service (LOS) D or better.

SANDAG maintains a master transportation network from which a specific year network, between the years 2010 and 2050, can be built. For air quality conformity analyses of the Regional Plan and 2014 RTIP Amendment No. 7, SANDAG built and verified five highway networks (2015, 2025, 2035, 2040, and 2050) from the master transportation network.

A list of the major highway and near-term regional arterial projects included in the conformity analysis, along with information on phasing for their implementation, are included in Tables B.14 and B.15. Locally funded, regionally significant projects have also been or are included in the air quality conformity analysis. These projects are funded with TransNet Extension funds – a 40-year, half-cent local sales tax extension approved by voters in 2004 – that expires in 2048; and other local revenue sources.

Transit networks
SANDAG also maintains transit network datasets for existing and proposed transit systems. Most transit routes run over the same streets, freeways, HOV lanes, and ramps used in the highway networks. The only additional facilities that are added to the master transportation network for transit modeling purposes are:

- Rail lines used by commuter rail, Trolleys, Streetcars
- Streets used by buses that are not part of local general plan circulation elements

BRT service has stop spacing similar to commuter rail stations and operating characteristics midway between rail and bus service. BRT service is provided by advanced design buses operating on HOV lanes or Managed Lanes, some grade-separated transit ways, and surface streets with priority transit systems.

Bus speeds assumed in the transit networks are derived from modeled highway speeds and reflect the effects of congestion. Higher bus speeds may result for transit vehicles operating on highways with HOV lanes and HOV bypass lanes at ramp meters, compared to those routes that operate on highways where these facilities do not exist.

In addition to transit travel times, transit fares are required as input to the mode choice model. A customized procedure using the traffic assignment software replicates the San Diego region’s fare policies for riders (seniors, disabled, students), which differ among:

- Local Buses, which collect a flat fare of between $1 and $2.50 (depending on the type of service)
- Trolleys, which charge $2.50 for all trips
- SPRINTER, which charges $2
- Commuter rail (COASTER), which has a zone-based fare of between $4 and $5.50
- Proposed regional BRT routes, which are assumed to charge $2.50 ($5 for Rapid BRT)
- Proposed Rapid Bus routes, which are assumed to charge $2.25

Fares are expressed in 2010 dollars and are assumed to remain constant in inflation-adjusted dollars over the forecast period.
Near-term transit route changes are drawn from the Coordinated Plan, which was produced in cooperation with the region’s transit agencies. Longer range improvements are proposed as a part of the Regional Plan development and other transit corridor studies. In addition to federal and state-funded projects, locally-funded transit projects that are regionally significant have been included in the air quality conformity analysis of the Regional Plan and the 2014 RTIP Amendment No. 7. Once network coding is completed, the ABM is run for the applicable scenarios (2015, 2025, 2035, 2040, and 2050). There have been no transit fares or operating policy changes since the adoption of the 2050 RTP.

**Active transportation networks**

SANDAG maintains an all-street active transportation network including existing and planned bike projects to support bike project evaluation and impact analysis. Based on the proposed bike projects in the regional bikeway system developed through Riding to 2050 - San Diego Regional Bike Plan, SANDAG generates year-specific active transportation networks and uses these networks to create accessibility measures from MGRA to MGRA, and from TAZ to TAZ for walking and biking modes. These active transportation accessibility measures are inputs to the SANDAG ABM to simulate people’s choice of travel mode and choice of bike routes.

The active transportation networks include five classification types for bike facilities in the regional bikeway system: (1) class I – bike path, (2) class II – bike lanes, (3) class III – bike routes, (4) bike boulevard, and (5) cycle track. Appendix U.16 includes detailed description of the bike facility classification system.

**Data sources**

Besides network inputs, SANDAG relies on several survey data to estimate and calibrate the model parameters. The most important survey data is household travel survey data. The latest household travel survey conducted for SANDAG was the 2006 Household Travel Behavior Survey (TBS06). Since 1966, consistent with the state of the practice for the California Household Travel Survey, and National Household Travel Survey, SANDAG and Caltrans conduct a comprehensive travel survey of San Diego county every ten years. TBS06 surveyed 3,651 households in San Diego County. The survey asked all household members to record all trips for a specified 24-hour weekday period using a specially designed travel log.

Additional data needed for the mode choice components of the ABM come from a transit on-board survey. The most recent SANDAG survey of this kind is the 2009 Transit On-Board Survey (OBS09). OBS09 collected data on transit trip purpose, origin and destination address, access and egress mode to and from transit stops, the on/off stop for surveyed transit routes, number of transit routes used, and demographic information. The total number of OBS09 survey records is 42,854.

Population synthesis requires two types of data: (1) individual household and person census records from San Diego County, and (2) aggregate data pertaining to the socio-demographic characteristics of each zone in the region. The first type of data is available from the Public Use Micro-data Sample (PUMS), a representative sample of complete household and person records that is released with the Census and American Communities Survey. The second type of data is from the census for the base-year and from land use forecasts for future years.

Table B.8 lists data sources mentioned above, along with other necessary sources of data. Modeling parking location choice, and employer-reimbursement of parking cost, depends on parking survey data collected from 2010 into early 2011 as well as a parking supply inventory. The transponder ownership sub-model requires data on transponder users. Data needed for model validation and calibration include traffic counts, transit-boarding data, Census Transportation Planning Package (CTPP) data, and Caltrans Performance Measurement System (PeMS) and Highway Performance Monitoring System (HPMS) data.
Motor Vehicle Emissions Modeling

Emissions model

In September 2011, ARB released EMFAC 2011 and the U.S. EPA approved this emissions model for use in conformity determinations on March 6, 2013. EMFAC 2011 is an integrated model that combines emission rate data with vehicle activity to calculate regional emissions. EMFAC 2011 reflects ARB rulemakings for on-road diesel fleet rules, Pavley Clean Car Standards, and the Low Carbon Fuel Standard (LCFS). EMFAC 2011 is made up of three modules: (1) EMFAC 2011-SG (scenario air quality assessment), (2) EMFAC 2011-LDV (passenger vehicle emissions), and (3) EMFAC 2011-HD (diesel trucks and buses). As noted in ARB’s EMFAC 2011 Technical Documentation, EMFAC 2011-SG takes the output from EMFAC 2011-LDV and EMFAC 2011-HD and applies scaling factors to estimate emissions consistent with regional VMT and speeds. Scaling factors are based on changes in total VMT, VMT distribution by vehicle class, and speed distribution. The SG module reports total emissions as tons per average weekday for each pollutant by vehicle class, and the total vehicle fleet for years between 1990 and 2035.

Using EMFAC 2011-SG, projections of daily regional emissions were prepared for reactive organic gases (ROG), nitrogen oxides (NOx), and CO.

The following process emissions are generated for each pollutant:

- All Pollutants – Running Exhaust, Idling Exhaust, Starting Exhaust, Total Exhaust
- ROG and total organic gasses – Diurnal Losses, Hot-Soak Losses, Running Losses, Resting Losses, Total Losses
- EMFAC 2011 models two fuels (gasoline and diesel) and 42 vehicle classes, including the following categories:
  - Passenger cars
  - Motorcycles
  - Motor homes
  - Light-duty trucks

Table B.8

<table>
<thead>
<tr>
<th>SANDAG Surveys</th>
<th>Outside Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Travel Behavior Survey (2006)</td>
<td>San Diego International Airport Air Passenger Survey</td>
</tr>
<tr>
<td>Interregional Travel Behavior Survey (2006)</td>
<td>Traffic and Bicycle counts</td>
</tr>
<tr>
<td>Transit On-Board Survey (2009)</td>
<td>Census data</td>
</tr>
<tr>
<td>Parking Inventory Survey (2010)</td>
<td>• Census Transportation Planning Package (CTPP)</td>
</tr>
<tr>
<td>Parking Behavior Survey (2010)</td>
<td>• Public Use Micro-data Sample (PUMS)</td>
</tr>
<tr>
<td>Border Crossing Survey (2011)</td>
<td>American Communities Survey (ACS)</td>
</tr>
<tr>
<td>Visitor Survey (2011)</td>
<td>• Census Transportation Planning Package (CTPP)</td>
</tr>
<tr>
<td>Special Events Survey (2011)</td>
<td>• Public Use Micro-data Sample (PUMS)</td>
</tr>
<tr>
<td>Commercial Vehicles Survey (2011)</td>
<td>Transponder ownership data</td>
</tr>
<tr>
<td></td>
<td>• Caltrans’ Performance Measurement System (PeMS)</td>
</tr>
<tr>
<td></td>
<td>• Caltrans’ Highway Performance Monitoring System (HPMS)</td>
</tr>
</tbody>
</table>
- Medium-duty trucks
- Light-heavy duty trucks
- Medium-heavy duty trucks
- Heavy-heavy duty trucks
- School buses
- Urban buses
- Motor coaches
- Other bus types

The air quality analysis of the Regional Plan and 2014 RTIP Amendment No. 7 conformity redetermination was conducted using EMFAC 2011-SG.

On December 30, 2014, ARB released EMFAC 2014. EMFAC 2014 represents ARB’s current understanding of motor vehicle travel activities and their associated emission levels. On May 15, 2015, ARB released an updated version, EMFAC 2014 v1.0.7; however, it has not yet been approved by U.S. EPA for use in conformity determinations. The draft conformity analysis also was performed with EMFAC2014 v1.0.7 and all projected emissions met the applicable SIP budgets.

The regional emissions projections for the Regional Plan and 2014 RTIP Amendment No. 7 were produced with EMFAC 2011 and are included in Tables B.9 and B.11.

**Regional emissions forecasts**

Regional travel demand forecasts were initiated in October 2014. Output from the SANDAG ABM was then processed to be useful for emissions modeling for the conformity determination of the Regional Plan and 2014 RTIP Amendment No. 7 conformity redetermination.

The analysis years were selected to comply with 40 CFR §93.106(a)(1) and §93.118(a) of the Transportation Conformity Regulations and the approved methodology for conducting the air quality conformity analyses for the Regional Plan and 2014 RTIP Amendment No. 7 conformity redetermination.

The first horizon year (2015) must be within ten years from the base year used to validate the regional transportation model (2012), the last horizon year must be the last year of the transportation plan’s forecast period (2050), and the horizon years may be no more than ten years apart (2025, 2035, and 2040). Federal RTP guidelines require that the Regional Plan cover a forecast period of a minimum of 20 years.

**Eight-hour ozone standard**

Effective April 4, 2013, the U.S. EPA found the Eight-Hour Ozone budgets included in the Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County adequate for transportation conformity purposes. Beginning in October 2014, SANDAG prepared countywide forecasts of average weekday ROG and NOx emissions for 2015, 2020 (interpolated), 2025, 2035, 2040, and 2050. ROG and NOx emissions are based upon the summer season. ROG and NOx data for 2020 are included to demonstrate conformity to the budgets included in the Maintenance Plan.

**CO standard**

Beginning in October 2014, CO regional emissions were projected for 2015, 2018 (interpolated), 2025, 2035, 2040, and 2050. CO emissions are based upon the winter season. CO data for 2018 is included to demonstrate conformity to the budget included in the Maintenance Plan.
Emissions modeling results

An emissions budget is the part of the SIP that identifies emissions levels necessary for meeting emissions reduction milestones, attainment, or maintenance demonstrations. To determine conformity of the Regional Plan and the 2014 RTIP Amendment No. 7, the Regional Plan must comply with the emission analysis described in the Regional Emissions Forecast section. Table B.9 shows that the projected ROG and NOx emissions from the Regional Plan and 2014 RTIP Amendment No. 7 are below the ROG and NOx budgets and satisfy the requirements of 40 CFR §93.118(a). Air quality conformity ozone standards relate to ozone that occurs near ground level as a result of various human activities. At the ground level, ozone is formed by chemical reactions of “precursor” pollutants – oxides of nitrogen (NOx) and volatile organic compounds – also known as reactive organic gases (ROG).

Table B.9
San Diego Forward: The Regional Plan Revenue Constrained Plan and 2014 RTIP Amendment No. 7 Air Quality Conformity Analysis for 2008 Eight-Hour Ozone Standard (EMFAC 2011)

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Weekday Vehicle Starts (1,000s)</th>
<th>Average Weekday Vehicle Miles (1,000s)</th>
<th>SIP Emissions Budget (Tons/Day)</th>
<th>ROG Emissions (Tons/Day)</th>
<th>NOx Emissions (Tons/Day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>13,311</td>
<td>78,631</td>
<td>53</td>
<td>21</td>
<td>98</td>
</tr>
<tr>
<td>2020</td>
<td>13,998</td>
<td>82,963</td>
<td>23</td>
<td>17</td>
<td>38</td>
</tr>
<tr>
<td>2025</td>
<td>14,664</td>
<td>87,295</td>
<td>21</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>2035</td>
<td>15,185</td>
<td>90,671</td>
<td>21</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>2040(1)</td>
<td>15,442</td>
<td>92,256</td>
<td>21</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>2050(1)</td>
<td>15,799</td>
<td>94,461</td>
<td>21</td>
<td>13</td>
<td>30</td>
</tr>
</tbody>
</table>

(1) The emissions data for 2040 and 2050 was prepared using 2035 emission factors, as emission factors for 2040 and 2050 are not available in EMFAC 2011. Also, adjustment factors are not available for 2035, 2040, and 2050. Modeled emission results for 2035, 2040, and 2050 likely are overestimated due to these two factors.

Note: Emission budgets from the Eight-Hour Ozone Attainment Plan for San Diego County, which were found adequate for transportation conformity purposes by the U.S. EPA effective June 9, 2008, are used for the 2015 analysis year. Emissions budgets from the Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County, which were found adequate for transportation conformity purposes by the U.S. EPA, effective April 4, 2013, are used for all other analysis years. SANDAG utilizes the default EMFAC travel data for some vehicle classes such as school buses. The same ABM travel data was used for the analysis performed with EMFAC 2011 and 2014. Differences in the number of average weekday vehicle starts and vehicle miles traveled in the tables created with EMFAC 2011 and EMFAC 2014 are due to differences in the default assumptions included in EMFAC for the vehicle classifications where SANDAG utilizes the default data (school bus, other bus, motor coach, and all other bus).

Adjustment factors for ROG and NOx were provided by ARB to account for regulations and minor technical improvements not yet included in the California Emissions Forecasting System inventories at the time of EMFAC 2011 development. Table B.10 includes the adjustment factors by category and analysis year. Adjustment factors were
provided for the years 2015, 2020, and 2025. Factors for later years were not available from ARB and, therefore, the adjustment factors for 2025 were carried over into later years.

<table>
<thead>
<tr>
<th>Table B.10</th>
<th>EMFAC 2011 Adjustment Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ROG Adjustment Factor (tons/day)</td>
</tr>
<tr>
<td></td>
<td>2015</td>
</tr>
<tr>
<td>AB 1493</td>
<td>0.12</td>
</tr>
<tr>
<td>Reformulated Gasoline</td>
<td>0.97</td>
</tr>
<tr>
<td>Smog Check</td>
<td>1.05</td>
</tr>
<tr>
<td>Advanced Clean Cars</td>
<td>0.04</td>
</tr>
<tr>
<td>Total*</td>
<td>2.17</td>
</tr>
</tbody>
</table>

* Totals represent unrounded adjustment factors.

Note: Adjustment factors were provided by ARB. The tons listed are subtracted from the EMFAC 2011 output of tons per day for ROG and NOx. Adjustment factors are not available for years 2035, 2040, and 2050 and, therefore, reflect 2025 adjustments for those years.

Table B.11 shows that projected CO emissions from the Regional Plan and 2014 RTIP Amendment No. 7 are below the 2003 CO budget of 730 tons per day and satisfy the requirements of 40 CFR §93.118(a).
<table>
<thead>
<tr>
<th>Year</th>
<th>Average Weekday Vehicle Starts (1,000s)</th>
<th>Average Weekday Vehicle Miles (1,000s)</th>
<th>SIP Emissions Budget Tons/Day</th>
<th>CO Emissions Tons/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>13,311</td>
<td>78,631</td>
<td>730</td>
<td>223</td>
</tr>
<tr>
<td>2018</td>
<td>13,717</td>
<td>81,230</td>
<td>730</td>
<td>195</td>
</tr>
<tr>
<td>2025</td>
<td>14,664</td>
<td>87,295</td>
<td>730</td>
<td>131</td>
</tr>
<tr>
<td>2035</td>
<td>15,185</td>
<td>90,671</td>
<td>730</td>
<td>114</td>
</tr>
<tr>
<td>2040(1)</td>
<td>15,442</td>
<td>92,256</td>
<td>730</td>
<td>116</td>
</tr>
<tr>
<td>2050(1)</td>
<td>15,799</td>
<td>94,461</td>
<td>730</td>
<td>119</td>
</tr>
</tbody>
</table>

(1) The emissions data for 2040 and 2050 was prepared using 2035 emission factors, as emission factors for 2040 and 2050 are not available in EMFAC 2011. Modeled emission results for 2040 and 2050 likely are overestimated due to this factor.

Note: Emissions budgets for the San Diego region from 2004 Revision to California SIP for CO, Updated Maintenance Plan for Ten Federal Planning Areas (approved as SIP revision in January 2006). Emissions results do not reflect ARB adjustment factors. SANDAG utilizes the default EMFAC travel data for some vehicle classes such as school buses. The same ABM travel data was used for the analysis performed with EMFAC 2011 and 2014. Differences in the number of average weekday vehicle starts and vehicle miles traveled in the tables created with EMFAC 2011 and EMFAC 2014 are due to differences in the default assumptions included in EMFAC for the vehicle classifications where SANDAG utilizes the default data (school bus, other bus, motor coach, and all other bus).
Exempt projects

Section 93.126 of the Transportation Conformity Regulations exempts certain highway and transit projects from the requirement to determine conformity. The categories of exempt projects include safety, mass transit, air quality (ridesharing, bike, and pedestrian facilities), and other (such as planning studies).

Table B.12 illustrates the exempt projects considered in the Regional Plan and 2014 RTIP Amendment No. 7. This table shows short-term exempt projects. Additional unidentified projects could be funded with revenues expected to be available from the continuation of existing state and federal programs.

Table B.12
Exempt Projects

Bikeway, Rail Trail, and Pedestrian Projects

<table>
<thead>
<tr>
<th>Project/Program Description</th>
<th>Project/Program Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayshore Bikeway</td>
<td>Maple Street Pedestrian Plaza</td>
</tr>
<tr>
<td>Bay-to-Ranch Bikeway</td>
<td>Mid-County Bikeway</td>
</tr>
<tr>
<td>Border Access Bicycle Corridor</td>
<td>Mira Mesa Bicycle Corridor</td>
</tr>
<tr>
<td>Camp Pendleton Trail</td>
<td>Mission Valley – Chula Vista Bicycle Corridor</td>
</tr>
<tr>
<td>Carlsbad – San Marcos Bicycle Corridor</td>
<td>National City – Highland Avenue Community Corridor</td>
</tr>
<tr>
<td>Central Coast Bicycle Corridor</td>
<td>North Park – Centre City Bicycle Corridor</td>
</tr>
<tr>
<td>Chula Vista Greenbelt</td>
<td>Oceanside – Bicycle Master Plan</td>
</tr>
<tr>
<td>City Heights – Old Town Bicycle Corridor</td>
<td>Otay Mesa Port of Entry Pedestrian/Bicycle Facilities</td>
</tr>
<tr>
<td>Clairemont – Centre City Bicycle Corridor</td>
<td>Park Boulevard Bicycle Connector</td>
</tr>
<tr>
<td>Coastal Rail Trail</td>
<td>Poway Bicycle Loop</td>
</tr>
<tr>
<td>East County Northern Bicycle Loop</td>
<td>San Diego Regional Bicycle Plan</td>
</tr>
<tr>
<td>East County Southern Bicycle Loop</td>
<td>San Diego River Multi-Use Bicycle and Pedestrian Path</td>
</tr>
<tr>
<td>El Camino Real Bicycle Corridor</td>
<td>San Luis Rey River Trail</td>
</tr>
<tr>
<td>Encinitas – San Marcos Bicycle Corridor</td>
<td>Santee – El Cajon Bicycle Corridor</td>
</tr>
<tr>
<td>Escondido Creek Bike Path Bridge and Bikeway</td>
<td>SR 52 Bikeway</td>
</tr>
<tr>
<td>Gilman Bicycle Connector</td>
<td>SR 56 Bikeway</td>
</tr>
<tr>
<td>Hillcrest – El Cajon Bicycle Corridor</td>
<td>SR 56/Black Mountain Road Bikeway Interchange</td>
</tr>
<tr>
<td>Imperial Beach Bicycle Connector</td>
<td>SR 125 Bicycle Corridor</td>
</tr>
<tr>
<td>Inland Rail Trail</td>
<td>SR 905 Bicycle Corridor</td>
</tr>
<tr>
<td>Interstate 8 Bicycle Corridor</td>
<td>Sweetwater River Trail</td>
</tr>
<tr>
<td>SR 15 Bikeway</td>
<td>Tecate International Border Crossing Pedestrian Facilities</td>
</tr>
<tr>
<td>Interstate 805 Bicycle Corridor</td>
<td>Ted Williams Parkway Pedestrian Bridge at Shoal Creek</td>
</tr>
<tr>
<td>Kearny Mesa – Beaches Bicycle Corridor</td>
<td>Third Avenue Bicycle and Pedestrian Access</td>
</tr>
</tbody>
</table>
### Exempt Projects

#### Bikeway, Rail Trail, and Pedestrian Projects

<table>
<thead>
<tr>
<th>Project/Program Description</th>
<th>Project/Program Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kensington – Balboa Park Bicycle Corridor</td>
<td>Vista Way Bicycle Connector</td>
</tr>
<tr>
<td>West Bernardo Bike Path</td>
<td></td>
</tr>
<tr>
<td>Bridge Rehabilitation/Preservation/Retrofit</td>
<td>Traveler Information Program</td>
</tr>
<tr>
<td>Collision Reduction</td>
<td>Bus on Shoulder Service</td>
</tr>
<tr>
<td>Emergency Response</td>
<td>Compass Card</td>
</tr>
<tr>
<td>Hazard Elimination/Safe Routes to School</td>
<td>FasTrak®</td>
</tr>
<tr>
<td>Highway Maintenance</td>
<td>Freeway Service Patrol</td>
</tr>
<tr>
<td>Safety Improvement Program</td>
<td>Vehicle Automation</td>
</tr>
<tr>
<td>Roadway/Roadside Preservation</td>
<td>Regional Vanpool Program</td>
</tr>
<tr>
<td>Smart Growth Incentive Program</td>
<td>Multimodal Integration and Performance-Based Management</td>
</tr>
<tr>
<td>Safe Routes to Transit</td>
<td>Arterial, Freeway, and Transit Management</td>
</tr>
<tr>
<td>Safe Routes to School</td>
<td>Intelligent Transportation System for Transit</td>
</tr>
<tr>
<td><strong>Transit Terminals</strong></td>
<td></td>
</tr>
<tr>
<td>Airport Intermodal Transit Center/Terminal</td>
<td>Joint Transportation Operations Center</td>
</tr>
<tr>
<td>San Ysidro Intermodal Transit Center/Terminal</td>
<td>Trolley Fiber Communication Network</td>
</tr>
<tr>
<td></td>
<td>Electronic Payment Systems and Universal Transportation Account</td>
</tr>
<tr>
<td></td>
<td>Various Traffic Signal Optimization/Prioritization</td>
</tr>
<tr>
<td></td>
<td>Transit Infrastructure Electrification</td>
</tr>
<tr>
<td></td>
<td>Employer Services and Outreach</td>
</tr>
<tr>
<td></td>
<td>Commuter Services and Bike Program</td>
</tr>
<tr>
<td></td>
<td>Mobility Hubs</td>
</tr>
<tr>
<td></td>
<td>Active Traffic and Demand Management</td>
</tr>
<tr>
<td></td>
<td>Shared Mobility Services</td>
</tr>
</tbody>
</table>
Implementation of Transportation Control Measures

There are four federally-approved Transportation Control Measures (TCMs) that must be implemented in San Diego, which the SIP refers to as transportation tactics. They include: (1) ridesharing, (2) transit improvements, (3) traffic flow improvements, and (4) bike facilities and programs.

These TCMs were established in the 1982 SIP, which identified general objectives and implementing actions for each tactic. The TCMs have been fully implemented. Ridesharing, transit, biking, and traffic flow improvements continue to be funded, although the level of implementation established in the SIP has been surpassed. Information regarding transit projects can be seen in Table B.13, and Appendix A. More detailed information regarding ridesharing and traffic flow improvements is included in Appendix E and information regarding bike facilities and programs is included in Appendix A.

Interagency Consultation Process and Public Input

The consultation process followed to prepare the Air Quality Conformity Analysis for the Regional Plan and 2014 RTIP Amendment No. 7 complies with the San Diego Transportation Conformity Procedures adopted in July 1998. In turn, these procedures comply with federal requirements under 40 CFR §93.106(a)(1). Interagency consultation involves SANDAG (as the MPO for San Diego County), the APCD, Caltrans, ARB, U.S. DOT, and U.S. EPA.

Consultation is a three-tier process that:

- Formulates and reviews drafts through a conformity working group
- Provides local agencies and the public with opportunities for input through existing regional advisory committees and workshops
- Seeks comments from affected federal and state agencies through participation in the development of draft documents and circulation of supporting materials prior to formal adoption

SANDAG consulted on the development of the Air Quality Conformity Analysis of the Regional Plan and 2014 RTIP Amendment No. 7 at public meetings of the San Diego Region CWG, the Transportation Committee, and Board of Directors, as follows:

- On September 5, 2012, SANDAG staff presented information on the agencywide Public Participation Plan (PPP), which serves as an umbrella document for all planning efforts conducted by the agency for discussion. Staff also presented information on Regional Plan draft work program, schedule, and Public Involvement Plan (PIP) for discussion.
- On December 5, 2012, SANDAG staff held a discussion with the CWG on the draft PPP update, which was accepted by the SANDAG Board of Directors at the October 26, 2012, meeting and released for a 45-day public comment period.
- On February 6, 2013, SANDAG staff held a discussion with the CWG on the draft PIP, which was released for public review and comment on January 7, 2013, for a 30-day review period.
- On December 4, 2013, SANDAG staff presented information on the Regional Plan schedule, 2050 regional growth forecast, and transportation modeling for discussion.
- On August 6, 2014, SANDAG staff presented the schedule and updates for the preparation of the Regional Plan and its air quality conformity analysis. Staff presented information on the Series 13 2050 Regional Growth Forecast, 2050 Revenue Forecast, and latest emissions model and emissions budgets.
On September 12, 2014, the SANDAG Board of Directors selected the Revenue Constrained Transportation Scenario for use in developing the Draft Regional Plan. SANDAG staff initiated the air quality conformity modeling for the Draft Regional Plan in September 2014.

On October 1, 2014, SANDAG staff presented further information about the criteria and procedures to be followed for the conformity analysis. Staff presented information on the schedule, transportation modeling, latest emissions model and emissions budgets, TCMs, and public involvement and outreach. Staff confirmed that a redetermination of conformity would be done for the 2014 RTIP Amendment No. 7, in conjunction with the Regional Plan for consistency purposes.

On October 3, 2014, SANDAG staff distributed the draft list of capacity increasing and non-capacity increasing projects to be included in the draft 2014 RTIP Amendment No. 7 for interagency consultation.

On November 14, 2014, SANDAG released the draft air quality conformity analysis of the Regional Plan and 2014 RTIP Amendment No. 7 to the CWG for a 30-day review-and-comment period. The draft air quality analysis was discussed at the December 3, 2014, meeting of the CWG.

On January 30, 2015, SANDAG released the revised draft air quality conformity analysis of the Regional Plan and 2014 RTIP Amendment No. 7, which incorporates emissions analysis utilizing the EMFAC 2014 model, to the CWG for a 30-day review-and-comment period. The draft air quality analysis was discussed at the February 4, 2015, meeting of the CWG.

On April 24, 2015, the SANDAG Board of Directors released the Draft Regional Plan and the 2014 RTIP Amendment No. 7 and its conformity analysis for public review and comment.

On May 21, 2015, the draft Regional Plan EIR was released for a 55-day public comment period. The comment period for the Draft Regional Plan and its conformity analysis, and draft EIR closed on July 15, 2015.

Two public hearings were held on the draft Regional Plan and its conformity determination and the 2014 RTIP Amendment No. 7 conformity determination on June 12, 2015, and June 18, 2015.

Based on comments received from the public and member agencies, refinements were made to the final Regional Plan network. The air quality conformity analysis was released to the CWG and the public on August 19, 2015. The comment period closed on September 25, 2015. The emissions analysis was conducted using the EMFAC2011 and EMFAC2014 v.1.0.7 models.

Members of the public are able to provide comments at meetings of the CWG, the Transportation Committee, and the SANDAG Board of Directors.
## Table B.13
### Revenue Constrained Scenario Transit Services

<table>
<thead>
<tr>
<th>Year</th>
<th>Service</th>
<th>Route</th>
<th>Description</th>
<th>Capital Cost ($2014); millions</th>
<th>Capital Cost ($YOE); millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2025</td>
<td>COASTER</td>
<td>398</td>
<td>Double tracking (20-minute peak frequencies and 120-minute off-peak frequencies and station/platform at Del Mar Fairgrounds)</td>
<td>$445</td>
<td>$445</td>
</tr>
<tr>
<td>2025</td>
<td>SPRINTER</td>
<td>399</td>
<td>SPRINTER efficiency improvements (20-minute frequencies by 2025); double tracking Oceanside to Escondido for 10-minute frequencies and six rail grade separations at El Camino Real, Melrose Dr, Vista Village Dr/Main St, North Dr, Civic Center, Auto Pkwy and Mission Ave</td>
<td>$946</td>
<td>$1339</td>
</tr>
<tr>
<td>2025</td>
<td>Trolley</td>
<td>510</td>
<td>Mid-Coast Trolley Extension</td>
<td>$1,753</td>
<td>$1,753</td>
</tr>
<tr>
<td>2025</td>
<td>Rapid</td>
<td>2</td>
<td>North Park to downtown San Diego via 30th St</td>
<td>$39</td>
<td>$52</td>
</tr>
<tr>
<td>2025</td>
<td>Rapid</td>
<td>10</td>
<td>La Mesa to Ocean Beach via Mid-City, Hillcrest, Old Town</td>
<td>$87</td>
<td>$117</td>
</tr>
<tr>
<td>2025</td>
<td>Rapid</td>
<td>120</td>
<td>Kearny Mesa to downtown via Mission Valley</td>
<td>$78</td>
<td>$104</td>
</tr>
<tr>
<td>2025</td>
<td>Rapid</td>
<td>SR 163</td>
<td>Kearny Mesa to downtown via SR 163. Stations at Sharp/Children's Hospital, University Ave, and Fashion Valley Transit Center</td>
<td>$150</td>
<td>$196</td>
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<tr>
<td>2025</td>
<td>Rapid</td>
<td>550</td>
<td>SDSU to Palomar Station via East San Diego, Southeast San Diego, National City</td>
<td>$59</td>
<td>$78</td>
</tr>
<tr>
<td>2025</td>
<td>Rapid</td>
<td>225</td>
<td>South Bay Rapid (Otay Mesa to downtown) and Otay Mesa ITC (formerly Route 628)</td>
<td>$206</td>
<td>$206</td>
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<tr>
<td>2025</td>
<td>Rapid</td>
<td>709</td>
<td>H St Trolley Station to Millennia via H St Corridor, Southwestern College</td>
<td>$37</td>
<td>$49</td>
</tr>
<tr>
<td>2025</td>
<td>Rapid</td>
<td>905</td>
<td>Extension of Iris Trolley Station to Otay Mesa Port of Entry (POE) route with new service to Otay Mesa East POE and Imperial Beach</td>
<td>$2</td>
<td>$2</td>
</tr>
<tr>
<td>2025</td>
<td>Streetcar</td>
<td>554</td>
<td>Hillcrest/Balboa Park/downtown San Diego Loop¹</td>
<td>$29</td>
<td>$38</td>
</tr>
<tr>
<td>2025</td>
<td>Airport Express</td>
<td>--</td>
<td>Airport Express Routes²</td>
<td>$52</td>
<td>$62</td>
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<tr>
<td>2025</td>
<td>Shuttle</td>
<td>448/449</td>
<td>San Marcos Shuttle³</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2025</td>
<td>Transit Lanes</td>
<td>SR 15 from I-805 to I-8</td>
<td>Transit Lane improvement for routes 235, 280/290, 653, and Airport Express Route to Tijuana International Airport. Existing facility at 8F, with improvement of 8F+2TL</td>
<td>$56</td>
<td>$56</td>
</tr>
</tbody>
</table>
### Table B.13 (continued)
#### Revenue Constrained Scenario Transit Services

<table>
<thead>
<tr>
<th>Conformity Analysis Year</th>
<th>Service</th>
<th>Route</th>
<th>Description</th>
<th>Capital Cost ($2014); millions</th>
<th>Capital Cost ($YOE); millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2025</td>
<td>Local Bus Routes - 15 minutes in key corridors</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2035</td>
<td>COASTER</td>
<td>398</td>
<td>Double tracking (20-minute peak frequencies and 60-minute off-peak frequencies, grade separations at Leucadia Blvd, stations/platforms at Convention Center/Gaslamp Quarter, and extension to Camp Pendleton)</td>
<td>$900</td>
<td>$1,357</td>
</tr>
<tr>
<td>2035</td>
<td>Trolley</td>
<td>510</td>
<td>Phase I - Blue Line Frequency Enhancements and rail grade separations at 28th St, 32nd St, E St, H St, Palomar St, and Blue/Orange Track Connection at 12th/Imperial</td>
<td>$205</td>
<td>$292</td>
</tr>
<tr>
<td>2035</td>
<td>Trolley</td>
<td>520</td>
<td>Orange Line Frequency Enhancements and four rail grade separations at Euclid Ave, Broadway/Lemon Grove Ave, Allison Ave/University Ave, Severin Dr</td>
<td>$267</td>
<td>$402</td>
</tr>
<tr>
<td>2035</td>
<td>Trolley</td>
<td>561</td>
<td>UTC to COASTER Connection (extension of Route 510)</td>
<td>$343</td>
<td>$602</td>
</tr>
<tr>
<td>2035</td>
<td>Trolley</td>
<td>562</td>
<td>Phase I - San Ysidro to Kearny Mesa via Chula Vista via Highland Ave/4th Ave, National City, Southeast San Diego, Mid-City, and Mission Valley</td>
<td>$2,333</td>
<td>$4,028</td>
</tr>
<tr>
<td>2035</td>
<td>Rapid</td>
<td>11</td>
<td>Spring Valley to SDSU via Southeast San Diego, downtown, Hillcrest, Mid-City</td>
<td>$113</td>
<td>$173</td>
</tr>
<tr>
<td>2035</td>
<td>Rapid</td>
<td>28</td>
<td>Point Loma to Kearny Mesa via Old Town, Linda Vista</td>
<td>$49</td>
<td>$76</td>
</tr>
<tr>
<td>2035</td>
<td>Rapid</td>
<td>30</td>
<td>Old Town to Sorrento Mesa via Pacific Beach, La Jolla, UTC</td>
<td>$105</td>
<td>$161</td>
</tr>
<tr>
<td>2035</td>
<td>Rapid</td>
<td>41</td>
<td>Fashion Valley to UTC/UC San Diego via Linda Vista and Clairemont</td>
<td>$55</td>
<td>$96</td>
</tr>
<tr>
<td>2035</td>
<td>Rapid</td>
<td>90</td>
<td>El Cajon Transit Center to San Diego International Airport ITC via SR 94, City College (peak only)</td>
<td>$20</td>
<td>$27</td>
</tr>
<tr>
<td>2035</td>
<td>Rapid</td>
<td>473</td>
<td>Phase I – Solana Beach to UTC/UC San Diego via Hwy 101 Coastal Communities, Carmel Valley</td>
<td>$43</td>
<td>$66</td>
</tr>
<tr>
<td>2035</td>
<td>Rapid</td>
<td>635</td>
<td>Eastlake to Palomar Trolley via Main St Corridor</td>
<td>$56</td>
<td>$98</td>
</tr>
<tr>
<td>Conformity Analysis Year</td>
<td>Service</td>
<td>Route</td>
<td>Description</td>
<td>Capital Cost ($2014); millions</td>
<td>Capital Cost ($YOE); millions</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------</td>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>2035</td>
<td>Rapid</td>
<td>638</td>
<td>Iris Trolley Station to Otay Mesa via Otay, Airway Dr, SR 905 Corridor</td>
<td>$38</td>
<td>$67</td>
</tr>
<tr>
<td>2035</td>
<td>Rapid</td>
<td>640A/640B</td>
<td>Route 640A: I-5 - San Ysidro to Old Town Transit Center via City College; 640B: I-5 Iris Trolley/Palomar to Kearny Mesa via Chula Vista, National City and City College</td>
<td>$153</td>
<td>$206</td>
</tr>
<tr>
<td>2035</td>
<td>Rapid</td>
<td>688/689/690</td>
<td>Route 688: San Ysidro to Sorrento Mesa via I-805/I-15/SR-52 Corridors (Peak Only); Route 689: Otay Mesa Port of Entry (POE) to UTC/Torrey Pines via Otay Ranch/ Millennia, I-805 Corridor (Peak Only); Route 690: Mid-City to Sorrento Mesa via I-805 Corridor (Peak Only)</td>
<td>$458</td>
<td>$653</td>
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<tr>
<td>2035</td>
<td>Rapid</td>
<td>910</td>
<td>Coronado to Downtown via Coronado Bridge</td>
<td>$26</td>
<td>$39</td>
</tr>
<tr>
<td>2035</td>
<td>Streetcar</td>
<td>553</td>
<td>Downtown San Diego: Little Italy to East Village</td>
<td>$14</td>
<td>$21</td>
</tr>
<tr>
<td>2035</td>
<td>Streetcar</td>
<td>555</td>
<td>30th St to Downtown San Diego via North Park/Golden Hill</td>
<td>$26</td>
<td>$45</td>
</tr>
<tr>
<td>2035</td>
<td></td>
<td></td>
<td>Local Bus Routes - 10 minutes in key corridors</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>2040</td>
<td>SPRINTER</td>
<td>588</td>
<td>SPRINTER Express</td>
<td>$244</td>
<td>$492</td>
</tr>
<tr>
<td>2040</td>
<td>Trolley</td>
<td>510</td>
<td>Phase II - Blue Line rail grade separations at Taylor St and Ash St</td>
<td>$226</td>
<td>$449</td>
</tr>
<tr>
<td>2040</td>
<td>Trolley</td>
<td>563</td>
<td>Pacific Beach to Balboa and Grossmont to Kearny Mesa</td>
<td>$610</td>
<td>$1,229</td>
</tr>
<tr>
<td>2040</td>
<td>Rapid</td>
<td>103</td>
<td>Solana Beach to Sabre Springs Rapid station via Carmel Valley</td>
<td>$67</td>
<td>$135</td>
</tr>
<tr>
<td>2040</td>
<td>Rapid</td>
<td>440</td>
<td>Carlsbad to Escondido Transit Center via Palomar Airport Rd</td>
<td>$51</td>
<td>$104</td>
</tr>
<tr>
<td>2040</td>
<td>Rapid</td>
<td>473</td>
<td>Phase II - Oceanside to Solana Beach via Hwy 101 Coastal Communities</td>
<td>$87</td>
<td>$176</td>
</tr>
<tr>
<td>2040</td>
<td>Rapid</td>
<td>477</td>
<td>Camp Pendleton to Carlsbad Village via College Blvd, Plaza Camino Real</td>
<td>$80</td>
<td>$161</td>
</tr>
<tr>
<td>2040</td>
<td>Rapid</td>
<td>235</td>
<td>Temecula (peak only) Extension of Escondido to Downtown Rapid (formerly Route 610)</td>
<td>$98</td>
<td>$198</td>
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<tr>
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<tr>
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<td>636</td>
<td>SDSU to Spring Valley via East San Diego, Lemon Grove, Skyline</td>
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<td>$79</td>
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<td>Rapid</td>
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Notes: 1 Streetcar cost is representative of 10 percent of the total capital cost.
2 Implementation of these services is dependent upon funding from aviation and other private sources.
3 Capital cost to be funded by the City of San Marcos.
## Table B.14
Revenue Constrained Scenario Managed Lane and Highway Project List

<table>
<thead>
<tr>
<th>Conformity Analysis Year</th>
<th>Freeway</th>
<th>From</th>
<th>To</th>
<th>Existing</th>
<th>With Improvements</th>
<th>Capital Cost ($2014); millions</th>
<th>Capital Cost ($YOE); millions</th>
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<tbody>
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<td>La Jolla Village Dr</td>
<td>I-5/805 Merge</td>
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<td>8F/14F+2ML</td>
<td>$206</td>
<td>$249</td>
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<tr>
<td>2025 I-5</td>
<td>SR 78</td>
<td>Vandegrift Blvd</td>
<td>8F</td>
<td>8F+2ML</td>
<td>$76</td>
<td>$100</td>
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<tr>
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<td>Manchester Ave</td>
<td>SR 78</td>
<td>8F</td>
<td>8F+2ML</td>
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<tr>
<td>2025 SR 11 /Otay Mesa East Port of Entry (POE)</td>
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Managed Lanes / Toll Lanes

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**San Diego Forward: The Regional Plan**
<table>
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<th>Year</th>
<th>Freeway</th>
<th>From</th>
<th>To</th>
<th>Existing</th>
<th>With Improvements</th>
<th>Capital Cost ($2014); millions</th>
<th>Capital Cost ($YOE); millions</th>
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<tbody>
<tr>
<td>2035</td>
<td>SR 78</td>
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<td>6T</td>
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<td>I-805</td>
<td>SR 52</td>
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<td>SR 54</td>
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### Table B.14 (continued)

**Revenue Constrained Scenario Managed Lane and Highway Project List**

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<th>Freeway</th>
<th>From</th>
<th>To</th>
<th>Existing</th>
<th>With Improvements</th>
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<th>Capital Cost ($YOE); millions</th>
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#### Highway Projects

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<td>Mission</td>
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<td>SR 52</td>
<td>Mast Blvd</td>
<td>SR 125</td>
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<td>Steele Canyon Rd</td>
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#### Operational Projects

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<th>To</th>
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<th>Capital Cost ($YOE); millions</th>
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#### Managed Lanes Connectors

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<th>To</th>
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<th>Capital Cost ($YOE); millions</th>
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<tbody>
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<td>SR 78</td>
<td>South to East &amp; West to North, North to East &amp; West to South</td>
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<td>$332</td>
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<td>I-805</td>
<td>North to North &amp; South to South</td>
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<td>$66</td>
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<td>$106</td>
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<td>Year</td>
<td>Freeway</td>
<td>From</td>
<td>To</td>
<td>Capital Cost ($2014); millions</td>
<td>Capital Cost ($YOE); millions</td>
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<td>-------------------------------</td>
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<tr>
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<td>I-805</td>
<td>SR 94</td>
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<td>$133</td>
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<td>SR 94</td>
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<td>$122</td>
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<td>$181</td>
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<td>I-15</td>
<td>SR 52</td>
<td>West to North &amp; South to East</td>
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<td>$326</td>
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**Managed Lanes Connectors (continued)**

<table>
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<th>From</th>
<th>To</th>
<th>Capital Cost ($2014); millions</th>
<th>Capital Cost ($YOE); millions</th>
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</thead>
<tbody>
<tr>
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<td>I-805</td>
<td>SR 94</td>
<td>North to West &amp; East to South</td>
<td>$101</td>
<td>$133</td>
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<td>SR 94</td>
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<td>$71</td>
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<td>I-805</td>
<td>SR 52</td>
<td>West to North &amp; South to East</td>
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<tr>
<td>2050</td>
<td>I-15</td>
<td>SR 52</td>
<td>West to North &amp; South to East</td>
<td>$130</td>
<td>$326</td>
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</table>

**Freeway Connectors**

<table>
<thead>
<tr>
<th>Year</th>
<th>Freeway</th>
<th>From</th>
<th>To</th>
<th>Capital Cost ($2014); millions</th>
<th>Capital Cost ($YOE); millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2025</td>
<td>I-5</td>
<td>SR 78</td>
<td>South to East &amp; West to South</td>
<td>$273</td>
<td>$358</td>
</tr>
<tr>
<td>2025</td>
<td>SR 11/SR 905</td>
<td>SR 125</td>
<td>EB SR 905 and WB SR 11 to NB SR 125, NB SR 905 to NB SR 125</td>
<td>$26</td>
<td>$28</td>
</tr>
<tr>
<td>2025</td>
<td>SR 11/SR 905</td>
<td>SR 125</td>
<td>SB 125 to WB SR 905, SB SR 125 to EB SR 11, SB SR 125 to SB SR 905</td>
<td>$74</td>
<td>$90</td>
</tr>
<tr>
<td>2025</td>
<td>SR 94</td>
<td>SR 125</td>
<td>South to East</td>
<td>$69</td>
<td>$88</td>
</tr>
<tr>
<td>2035</td>
<td>I-5</td>
<td>SR 56</td>
<td>West to North &amp; South to East</td>
<td>$273</td>
<td>$411</td>
</tr>
<tr>
<td>2035</td>
<td>SR 94</td>
<td>SR 125</td>
<td>West to North</td>
<td>$81</td>
<td>$122</td>
</tr>
<tr>
<td>2050</td>
<td>I-15</td>
<td>SR 56</td>
<td>North to West</td>
<td>$101</td>
<td>$265</td>
</tr>
<tr>
<td>Conformity Analysis Year</td>
<td>SANDAG ID</td>
<td>Lead Agency</td>
<td>Project Title</td>
<td>Project Description</td>
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<td></td>
</tr>
<tr>
<td>2015</td>
<td>CB04A</td>
<td>Carlsbad</td>
<td>El Camino Real Widening - Tamarack Ave to Chestnut Ave</td>
<td>In Carlsbad, widen El Camino Real to prime arterial standards with three travel lanes, bike lanes, and sidewalks in each direction including intersection improvements at Tamarack Avenue and Chestnut Avenue</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>CHV08</td>
<td>Chula Vista</td>
<td>Willow St Bridge Project - Bonita Rd to Sweetwater Rd</td>
<td>Replace 2-lane bridge with 4-lane bridge (Phase I)</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>SD32</td>
<td>San Diego</td>
<td>Carroll Canyon Rd</td>
<td>Carroll Canyon Road from Scranton Road to I-805: extend Carroll Canyon under I-805 including improvements to on/off ramps</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>CB04B</td>
<td>Carlsbad</td>
<td>El Camino Real and Cannon Rd</td>
<td>In Carlsbad, along the eastside of El Camino Real just south of Cannon Road, widen to prime arterial standards with three through lanes, a right turn lane, and a sidewalk approaching the intersection</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>CB04C</td>
<td>Carlsbad</td>
<td>El Camino Real - Lisa St to Crestview Dr</td>
<td>In Carlsbad, along the west side of El Camino Real, roadway widening to provide three southbound through lanes, curb, gutter, and sidewalk per prime arterial standards</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>CB12</td>
<td>Carlsbad</td>
<td>College Blvd Reach A - Badger Ln to Cannon Rd</td>
<td>In Carlsbad, from Badger Lane to Cannon Road, construct a new segment of College Boulevard to provide 4-lane roadway with raised median, bike lanes, and sidewalks/trails in accordance with major arterial standards</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>CB13</td>
<td>Carlsbad</td>
<td>Poinsettia Ln Reach E - Cassia Dr to Skimmer Ct</td>
<td>In Carlsbad, from Cassia Drive to Skimmer Court, construct a new 4-lane roadway with median, bike lanes, and sidewalks/trails to major arterial standards</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>CB22</td>
<td>Carlsbad</td>
<td>Avenida Encinas, widen from Palomar Airport Rd to EWPCF</td>
<td>In Carlsbad, Avenida Encinas from Palomar Airport Road southerly to existing improvements adjacent to the Embarcadero Lane, roadway widening to secondary arterial standards</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>CB30</td>
<td>Carlsbad</td>
<td>El Camino Real – El Camino Real to Tamarack Ave</td>
<td>In Carlsbad, at the intersection of El Camino Real and Tamarack Avenue, construct a second left turn lane from El Camino Real to westbound Tamarack</td>
<td></td>
</tr>
</tbody>
</table>
### Table B.15 (continued)

**Revenue Constrained Scenario: Arterial Projects**

<table>
<thead>
<tr>
<th>Year</th>
<th>SANDAG ID</th>
<th>Lead Agency</th>
<th>Project Title</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2025</td>
<td>CB31</td>
<td>Carlsbad</td>
<td>El Camino Real – La Costa Ave to Arenal Rd</td>
<td>In Carlsbad, along El Camino Real from 700 feet north of La Costa Avenue to Arenal Road, widening along the southbound side of the roadway to provide three travel lanes and a bike lane in accordance with prime arterial standards</td>
</tr>
<tr>
<td>2025</td>
<td>CB32</td>
<td>Carlsbad</td>
<td>El Camino Real Widening - Cassia to Camino Vida Roble</td>
<td>In Carlsbad, widen El Camino Real from 900 feet north of Cassia Road to Camino Vida Roble, along the northbound side of the roadway to provide three travel lanes and a bike lane in accordance with prime arterial standards</td>
</tr>
<tr>
<td>2025</td>
<td>CB34</td>
<td>Carlsbad</td>
<td>Palomar Airport Rd - Palomar Airport Rd to Paseo Del Norte</td>
<td>In Carlsbad, widening along eastbound Palomar Airport Road to provide a dedicated right turn lane to southbound Paseo Del Norte</td>
</tr>
<tr>
<td>2025</td>
<td>CB35</td>
<td>Carlsbad</td>
<td>Palomar Airport Rd - Palomar Airport Rd to Paseo Del Norte</td>
<td>In Carlsbad, lengthen the left turn pocket along eastbound Palomar Airport Road to northbound Paseo Del Norte</td>
</tr>
<tr>
<td>2025</td>
<td>CB38</td>
<td>Carlsbad</td>
<td>El Camino Real – Cannon Rd to Tamarack Ave</td>
<td>El Camino Real from Cannon Road to Tamarack, widen along both sides of El Camino Real from Cannon Road to Tamarack Avenue excluding the limits of project CB04C, to provide a raised median, three travel lanes, bike lane, curb, gutter, and walkway along both sides per prime arterial standards, and a new traffic signal at Lisa Street</td>
</tr>
<tr>
<td>2025</td>
<td>CHV08</td>
<td>Chula Vista</td>
<td>Willow St Bridge Project - Bonita Rd to Sweetwater Rd</td>
<td>Replace 2-lane bridge with 4-lane bridge (Phase II)</td>
</tr>
<tr>
<td>2025</td>
<td>CHV69</td>
<td>Chula Vista</td>
<td>Heritage Rd Bridge</td>
<td>Heritage Road from Main Street/Nirvana Avenue to Entertainment Circle, widen and lengthen bridge over Otay River from 4-lane to 6-lane bridge that accommodates shoulders, sidewalk, and medial; project is on Heritage Road from the intersection of Main Street and Nirvana Avenue to Entertainment Circle</td>
</tr>
<tr>
<td>Conformity Analysis Year</td>
<td>SANDAG ID</td>
<td>Lead Agency</td>
<td>Project Title</td>
<td>Project Description</td>
</tr>
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</tr>
<tr>
<td>2025</td>
<td>CNTY14</td>
<td>San Diego County</td>
<td>South Santa Fe Ave North - Montgomery Dr to South of Woodland Dr</td>
<td>Vista City limits to 700 feet south of Woodland, reconstruct and widen from 2 to 4 lanes including bicycle lane; more detail in 2014 RTIP Project List</td>
</tr>
<tr>
<td>2025</td>
<td>CNTY14A</td>
<td>San Diego County</td>
<td>South Santa Fe Ave South</td>
<td>South Santa Fe from 700 feet south of Woodland Drive to Smilax Road, widening of South Santa Fe Avenue to a 5-lane major road with a center left turn lane, curb, gutter, sidewalk, bike lanes, and drainage improvements from 700 feet south of Woodland Drive to Smilax Road</td>
</tr>
<tr>
<td>2025</td>
<td>CNTY21</td>
<td>San Diego County</td>
<td>Bradley Ave Overpass at SR 67</td>
<td>Widen Bradley Avenue from Magnolia Avenue to Mollison Avenue; widen from 2 lanes to 4 lanes plus sidewalks. Replace 2-lane bridge over SR 67 with a 6-lane bridge which accommodates turn pockets.</td>
</tr>
<tr>
<td>2025</td>
<td>CNTY24</td>
<td>San Diego County</td>
<td>Cole Grade Rd</td>
<td>Cole Grade Road from north of Horse Creek Trail to south of Pauma Heights Road, widen to accommodate 14-foot traffic lane in both directions, 12-foot center 2-way left turn, 6-foot bike lane and 10-foot pathway</td>
</tr>
<tr>
<td>2025</td>
<td>CNTY34</td>
<td>San Diego County</td>
<td>Dye Rd Extension</td>
<td>Dye Road to San Vicente Road - in Ramona, study, design, and construct a 2-lane community collector road with intermittent turn lanes, bike lanes, curb, gutter, and pathway/walkway</td>
</tr>
<tr>
<td>2025</td>
<td>CNTY35</td>
<td>San Diego County</td>
<td>Ramona St Extension</td>
<td>From Boundary Avenue to Warnock Drive - in the community of Ramona, construct new road extension, 2 lanes with intermittent turn lanes, bike lanes, and walkway/pathway</td>
</tr>
<tr>
<td>2025</td>
<td>CNTY36</td>
<td>San Diego County</td>
<td>San Vicente Rd Improvements</td>
<td>From Warnock Drive to Wildcat Canyon Road - in Ramona, design and reconstruct road improvements, including 2-lane community collector road with intermittent turn lanes, bike lanes, asphalt concrete dike, and pathway/walkway</td>
</tr>
<tr>
<td>Conformity Analysis Year</td>
<td>SANDAG ID</td>
<td>Lead Agency</td>
<td>Project Title</td>
<td>Project Description</td>
</tr>
<tr>
<td>--------------------------</td>
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<td>---------------------</td>
</tr>
<tr>
<td>2025 CNTY39 San Diego County</td>
<td>Bear Valley Pkwy North</td>
<td>From San Pasqual Valley Road to Boyle Avenue - widen from 2 to 4 lanes, with a center median, a bike lane and shoulder in each direction of travel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025 CNTY82 San Diego County</td>
<td>Alpine Blvd Streetscape Improvements</td>
<td>From Tavern Road to South Grade Road – in unincorporated community of Alpine, widen from 2-lane to 3-lane roadway including a median turn-lane with bicycle, parking, and pedestrian improvements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025 CNTY83 San Diego County</td>
<td>SR67/Highland/Dye Intersection</td>
<td>From SR 67 to 1,000 feet SE of SR 67 – in Ramona, intersection widening (double left turn lanes on Dye/Highland and double through lanes with dedicated right turn lanes on SR 67), signal modification with bicycle and pedestrian improvements, and associated improvements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025 CNTY88 San Diego County</td>
<td>Ashwood Street Corridor Improvements – Mapleview to Willow</td>
<td>Ashwood Street/Wildcat Canyon Road from Mapleview Street to 1100 feet north of Willow Road in Lakeside- traffic signal improvements at Mapleview and Ashwood; traffic signal installation at Willow and Ashwood/Wildcat Canyon; and the addition of turn lanes, addition of a passing lane in a non-urbanized area, bike lanes, and pedestrian facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025 ESC02A Escondido</td>
<td>East Valley/Valley Center</td>
<td>Widen roadway from 4 to 6 lanes with raised medians and left turn pockets; modify signal at Lake Wohlford and Valley Center Road; widen bridge over Escondido Creek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025 ESC04 Escondido</td>
<td>Citracado Pkwy II</td>
<td>West Valley to Harmony Grove, widen from 2 to 4 lanes with raised medians; construct bridge over Escondido Creek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025 ESC06 Escondido</td>
<td>El Norte Pkwy Bridge at Escondido Creek - Kaile Ln to Key Lime Way</td>
<td>Construct missing 2-lane bridge at Escondido Creek</td>
<td></td>
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</tr>
</tbody>
</table>
### Table B.15 (continued)

**Revenue Constrained Scenario: Arterial Projects**

<table>
<thead>
<tr>
<th>Conformity Analysis Year</th>
<th>SANDAG ID</th>
<th>Lead Agency</th>
<th>Project Title</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2025 ESC08</td>
<td>Escondido</td>
<td>Felicita Ave/Juniper St - from Escondido Blvd to Juniper St and from Juniper St to Chestnut St</td>
<td>Widen from 2 to 4 lanes with left turn pockets, raised medians on Felicita; new traffic signals at Juniper and Chestnut, Juniper, and 13th Avenue, Juniper and 15th Avenue; modify traffic signal at Juniper and Felicita</td>
<td></td>
</tr>
<tr>
<td>2025 ESC09</td>
<td>Escondido</td>
<td>Ninth Ave – La Terraza Blvd to Spruce St</td>
<td>Widen from 2 to 4 lanes with raised median and modify traffic signals at Ninth Avenue and Tulip Street - design phase</td>
<td></td>
</tr>
<tr>
<td>2025 ESC24</td>
<td>Escondido</td>
<td>Centre City Pkwy</td>
<td>Mission Road to SR 78, widen 4 lanes to 6 lanes with intersection improvements</td>
<td></td>
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<tr>
<td>2025 LG13</td>
<td>Lemon Grove</td>
<td>Lemon Grove Ave Realignment Project</td>
<td>Lemon Grove Avenue at SR 94 - a key project in the redevelopment of the city’s downtown Village Specific Plan, this project will realign Lemon Grove Avenue at SR 94 adding traffic lanes and improving access to and from SR 94, reducing motorist delays and emissions</td>
<td></td>
</tr>
<tr>
<td>2025 NC01</td>
<td>National City</td>
<td>Plaza Blvd Widening</td>
<td>Plaza Boulevard from Highland Avenue to Euclid Avenue, widen from 2 to 3 lanes including a new traffic lane in each direction, new sidewalks, sidewalk widening, traffic signal upgrades, and interconnection at Plaza Boulevard</td>
<td></td>
</tr>
<tr>
<td>2025 O06</td>
<td>Oceanside</td>
<td>Melrose Dr Extension</td>
<td>Melrose Drive from North Santa Fe Avenue to Spur Avenue - in Oceanside, future construction of Melrose Drive; 4-lane arterial highway with medians, sidewalks, and bike lanes between North Santa Fe Avenue and Spur Avenue</td>
<td></td>
</tr>
<tr>
<td>2025 O22</td>
<td>Oceanside</td>
<td>College Blvd - Vista Way to Old Grove Rd</td>
<td>In Oceanside, widen from the existing 4 lanes to 6 lanes with bike lanes and raised median</td>
<td></td>
</tr>
<tr>
<td>2025 SD34</td>
<td>San Diego</td>
<td>El Camino Real</td>
<td>In San Diego on El Camino Real from San Dieguito Road to Via de la Valle, reconstruct and widen from 2 to 4 lanes and extend transition lane and additional grading to avoid biological impacts (CIP 52-479.0)</td>
<td></td>
</tr>
<tr>
<td>2025 SD70</td>
<td>San Diego</td>
<td>West Mission Bay Dr Bridge</td>
<td>In San Diego, replace bridge and increase from 4- to 6-lane bridge including Class II bike lane (52-643/500871)</td>
<td></td>
</tr>
<tr>
<td>Conformity Analysis Year</td>
<td>SANDAG ID</td>
<td>Lead Agency</td>
<td>Project Title</td>
<td>Project Description</td>
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</tr>
<tr>
<td>2025</td>
<td>SD83</td>
<td>San Diego</td>
<td>SR 163/Friars Rd Interchange Modification</td>
<td>Friars Road from Avenida de las Tiendas to Mission Center Road, widen and improve Friars Road and overcrossing; reconstruct interchange including improvements to ramp intersections (Phase I). Construct new connector roadways and structures (Phase II). Construct auxiliary lanes along northbound and southbound SR 163 (Phase III).</td>
</tr>
<tr>
<td>2025</td>
<td>SD90</td>
<td>San Diego</td>
<td>SR 163/Clairemont Mesa Blvd Interchange</td>
<td>From Kearny Villa Road to Kearny Mesa - in San Diego, widen from 4- to 6-lane prime arterial; Phase II of the project - west ramps</td>
</tr>
<tr>
<td>2025</td>
<td>SD102A</td>
<td>San Diego</td>
<td>Otay Truck Route Widening</td>
<td>On Otay Truck Route in San Diego from Drucker Lane to La Media, add one lane (total 3 lanes) for trucks; from Britannia to La Media, add one lane for trucks and one lane for emergency vehicles (border patrol/fire department access); along Britannia from Britannia Court to the Otay Truck Route - add one lane for trucks</td>
</tr>
<tr>
<td>2025</td>
<td>SD103</td>
<td>San Diego</td>
<td>I-5/Genesee Ave Interchange</td>
<td>In San Diego, replace Genesee Avenue overcrossing from 4-lane bridge with 6-lane bridge; construct auxiliary lanes and replace Voigt Drive bridge; add additional lane at on/off ramp to Sorrento Valley Road; add one carpool lane and one general purpose lane to on-ramp from Sorrento Valley Road to southbound I-5; install ramp meters at on-ramp and construct a southbound auxiliary lane between Sorrento Valley Road and Genesee Avenue</td>
</tr>
<tr>
<td>2025</td>
<td>SD189</td>
<td>San Diego</td>
<td>Sea World Dr Widening and I-5 Interchange Improvements</td>
<td>In San Diego, replace existing 4-lane bridge with an 8-lane bridge with new on/off ramps; widen approachways to add right turn lanes to improve access to Interstate 5 (CIP 52-706.0)</td>
</tr>
</tbody>
</table>
Table B.15 (continued)
Revenue Constrained Scenario: Arterial Projects

<table>
<thead>
<tr>
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<th>Lead Agency</th>
<th>Project Title</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2025</td>
<td>SD190</td>
<td>San Diego</td>
<td>Palm Ave/I-805 Interchange</td>
<td>Improvements to the Palm Avenue Bridge over I-805; including repairs to the bridge approaches; a new Project Study Report (PSR) and Preliminary Environmental Assessment Report (PEAR). Phase II of the project will include widening of the bridge, realignment of existing ramps, possible addition of northbound looping entrance ramp, restriping of traffic lanes, and signal modifications.</td>
</tr>
<tr>
<td>2025</td>
<td>SM19</td>
<td>San Marcos</td>
<td>Grand Ave Bridge and Street Improvements</td>
<td>From Discovery Street to San Marcos Boulevard, construct 4-lane arterial bridge and a 6-lane arterial street from Craven to Grand Avenue</td>
</tr>
<tr>
<td>2025</td>
<td>SM22</td>
<td>San Marcos</td>
<td>South Santa Fe - Bosstick to Smilax</td>
<td>From Bosstick to Smilax, realign and signalize the South Santa Fe/Smilax intersection (Phase I)</td>
</tr>
<tr>
<td>2025</td>
<td>SM24</td>
<td>San Marcos</td>
<td>Woodland Pkwy Interchange Improvements</td>
<td>From La Moree Road to Rancheros Drive, modify existing ramps at Woodland Parkway and Barham Drive; widen and realign SR 78 undercrossing and associated work</td>
</tr>
<tr>
<td>2025</td>
<td>SM31</td>
<td>San Marcos</td>
<td>Discovery St Improvements</td>
<td>From Via Vera Cruz to Bent Avenue/Craven Road, widen roadway to 4-lane secondary arterial</td>
</tr>
<tr>
<td>2025</td>
<td>SM32</td>
<td>San Marcos</td>
<td>Via Vera Cruz Bridge and Street Improvements</td>
<td>From San Marcos Boulevard to Discovery Street, widen to 4-lane secondary arterial and construct a bridge at San Marcos Creek</td>
</tr>
<tr>
<td>2025</td>
<td>SM42</td>
<td>San Marcos</td>
<td>Street Improvements: Discovery St - Craven Rd to West of Twin Oaks Valley Rd</td>
<td>In the City of San Marcos, on Discovery Street from Craven Road to west of Twin Oaks Valley Road, construct approximately 5,100 lineal feet of a new 6-lane roadway</td>
</tr>
<tr>
<td>2025</td>
<td>SM43</td>
<td>San Marcos</td>
<td>Street Improvements and Widening on Barham Dr</td>
<td>Twin Oaks Valley Road to La Moree Road in the City of San Marcos, on Barham Drive between Twin Oaks Valley Road and La Moree Road, widen and reconstruct the north side of Barham Drive to a 6-lane prime arterial and associated work</td>
</tr>
<tr>
<td>Conformity Year</td>
<td>SANDAG ID</td>
<td>Lead Agency</td>
<td>Project Title</td>
<td>Project Description</td>
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</tr>
<tr>
<td>2025</td>
<td>SM48</td>
<td>San Marcos</td>
<td>Creekside Dr</td>
<td>Construct approximately 3,000 feet of a 2-lane collector road from Via Vera Cruz to Grand Avenue in the City of San Marcos. The road will include two 12-foot lanes, diagonal parking on the north side, and parallel parking on the south side. In addition, the project also will include a 10-foot bike trail meandering along the south side.</td>
</tr>
<tr>
<td>2025</td>
<td>SM55</td>
<td>San Marcos</td>
<td>Borden Rd Widening and Improvements</td>
<td>Borden Road from Vineyard to Richland, widening of Borden Road will add an additional roadway capacity to accommodate increase in traffic volumes</td>
</tr>
<tr>
<td>2035</td>
<td>SD81</td>
<td>San Diego</td>
<td>Genesee Ave - Nobel Dr to SR 52</td>
<td>In San Diego, future widening to 6-lane major street north of Decoro Street and to a 6-lane primary arterial south of Decoro Street and included Class II bicycle lanes (CIP 52-458.0)</td>
</tr>
<tr>
<td>2035</td>
<td>SD190</td>
<td>San Diego</td>
<td>Palm Avenue/Interstate I-805 Interchange</td>
<td>Phase III will provide the ultimate build-out of the project which will incorporate improvements of Phase II plus the northbound and southbound entrance ramps (CIP 52-640.0)</td>
</tr>
<tr>
<td>2035</td>
<td>SM10</td>
<td>San Marcos</td>
<td>SR 78/Smilax</td>
<td>Construct new interchange at Smilax Road interchange and SR 78 improvements</td>
</tr>
</tbody>
</table>

* The arterials listed in this table reflect locally initiated projects that were submitted by local jurisdictions in the 2014 Regional Transportation Improvement Program.
Endnotes

1 One small portion of tribal land (approximately 119 acres) of the Pechanga Band of Luiseño Indians purchased within the north portion of San Diego County was excluded from the San Diego region 2008 Eight-Hour Ozone Standard non-attainment designation. All other tribal lands within San Diego County were included in the designation.

2 Appendix T: SANDAG Travel Demand Model and Forecasting Documentation includes additional detail regarding the overall model structure.

3 Full-time employment is defined in the SANDAG 2006 household survey as at least 30 hours/week. Part-time is less than 30 hours/week on a regular basis.

4 GP: general purpose lanes of a freeway.
Regional Growth Forecast

Final 2050 Regional Growth Forecast
Population, Jobs, and Housing by Jurisdiction
October 2015

Table J.1
Series 13 Regional Growth Forecast Population by Jurisdiction

<table>
<thead>
<tr>
<th>Jurisdictions</th>
<th>2012</th>
<th>2020</th>
<th>2035</th>
<th>2050</th>
<th>Change (2012-2050)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlsbad</td>
<td>107,674</td>
<td>118,450</td>
<td>124,351</td>
<td>124,518</td>
<td>16,844 (16%)</td>
</tr>
<tr>
<td>Chula Vista</td>
<td>249,382</td>
<td>287,173</td>
<td>326,625</td>
<td>345,586</td>
<td>96,204 (39%)</td>
</tr>
<tr>
<td>Coronado</td>
<td>23,187</td>
<td>23,634</td>
<td>24,165</td>
<td>24,219</td>
<td>1,032 (4%)</td>
</tr>
<tr>
<td>Del Mar</td>
<td>4,194</td>
<td>4,399</td>
<td>4,672</td>
<td>4,732</td>
<td>538 (13%)</td>
</tr>
<tr>
<td>El Cajon</td>
<td>100,562</td>
<td>102,761</td>
<td>109,383</td>
<td>115,465</td>
<td>14,903 (15%)</td>
</tr>
<tr>
<td>Encinitas</td>
<td>60,346</td>
<td>62,908</td>
<td>65,264</td>
<td>66,670</td>
<td>6,324 (10%)</td>
</tr>
<tr>
<td>Escondido</td>
<td>146,057</td>
<td>165,095</td>
<td>172,697</td>
<td>173,430</td>
<td>27,373 (19%)</td>
</tr>
<tr>
<td>Imperial Beach</td>
<td>26,609</td>
<td>27,506</td>
<td>30,369</td>
<td>31,691</td>
<td>5,082 (19%)</td>
</tr>
<tr>
<td>La Mesa</td>
<td>58,296</td>
<td>61,102</td>
<td>70,252</td>
<td>77,881</td>
<td>19,585 (34%)</td>
</tr>
<tr>
<td>Lemon Grove</td>
<td>25,603</td>
<td>26,844</td>
<td>28,673</td>
<td>30,903</td>
<td>5,300 (21%)</td>
</tr>
<tr>
<td>National City</td>
<td>58,967</td>
<td>62,342</td>
<td>73,329</td>
<td>85,121</td>
<td>26,154 (44%)</td>
</tr>
<tr>
<td>Oceanside</td>
<td>169,319</td>
<td>177,840</td>
<td>188,597</td>
<td>189,377</td>
<td>20,058 (12%)</td>
</tr>
<tr>
<td>Poway</td>
<td>48,382</td>
<td>50,026</td>
<td>53,062</td>
<td>53,149</td>
<td>4,767 (10%)</td>
</tr>
<tr>
<td>San Diego</td>
<td>1,321,315</td>
<td>1,453,267</td>
<td>1,665,609</td>
<td>1,777,936</td>
<td>456,621 (35%)</td>
</tr>
<tr>
<td>San Marcos</td>
<td>85,560</td>
<td>98,915</td>
<td>109,095</td>
<td>113,015</td>
<td>27,455 (32%)</td>
</tr>
<tr>
<td>Santee</td>
<td>54,643</td>
<td>59,497</td>
<td>63,812</td>
<td>66,313</td>
<td>11,670 (21%)</td>
</tr>
<tr>
<td>Solana Beach</td>
<td>13,000</td>
<td>13,376</td>
<td>14,207</td>
<td>14,870</td>
<td>1,870 (14%)</td>
</tr>
<tr>
<td>Vista</td>
<td>95,034</td>
<td>96,993</td>
<td>111,771</td>
<td>126,455</td>
<td>31,421 (33%)</td>
</tr>
<tr>
<td>Unincorporated</td>
<td>495,299</td>
<td>543,545</td>
<td>617,765</td>
<td>647,428</td>
<td>152,129 (31%)</td>
</tr>
<tr>
<td>Region</td>
<td>3,143,429</td>
<td>3,435,713</td>
<td>3,853,698</td>
<td>4,068,759</td>
<td>925,330 (29%)</td>
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<tr>
<td>Jurisdictions</td>
<td>2012</td>
<td>2020</td>
<td>2035</td>
<td>2050</td>
<td>Change (2012-2050)</td>
</tr>
<tr>
<td>---------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>--------------------</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Carlsbad</td>
<td>66,279</td>
<td>29%</td>
<td>77,422</td>
<td>85,757</td>
<td>19,478</td>
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<tr>
<td>Chula Vista</td>
<td>65,340</td>
<td>75%</td>
<td>82,953</td>
<td>114,550</td>
<td>49,210</td>
</tr>
<tr>
<td>Coronado</td>
<td>12,377</td>
<td>1%</td>
<td>12,377</td>
<td>12,515</td>
<td>12,536</td>
</tr>
<tr>
<td>Del Mar</td>
<td>4,521</td>
<td>5%</td>
<td>4,542</td>
<td>4,704</td>
<td>4,726</td>
</tr>
<tr>
<td>El Cajon</td>
<td>38,393</td>
<td>30%</td>
<td>41,410</td>
<td>45,201</td>
<td>49,825</td>
</tr>
<tr>
<td>Encinitas</td>
<td>26,165</td>
<td>13%</td>
<td>27,275</td>
<td>28,467</td>
<td>29,551</td>
</tr>
<tr>
<td>Escondido</td>
<td>48,844</td>
<td>21%</td>
<td>53,498</td>
<td>57,732</td>
<td>59,081</td>
</tr>
<tr>
<td>Imperial Beach</td>
<td>3,421</td>
<td>35%</td>
<td>4,311</td>
<td>4,595</td>
<td>4,613</td>
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<tr>
<td>La Mesa</td>
<td>25,233</td>
<td>45%</td>
<td>28,673</td>
<td>33,309</td>
<td>36,552</td>
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<tr>
<td>Lemon Grove</td>
<td>6,774</td>
<td>18%</td>
<td>7,320</td>
<td>8,033</td>
<td>8,656</td>
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<tr>
<td>National City</td>
<td>22,270</td>
<td>28%</td>
<td>25,184</td>
<td>27,714</td>
<td>34,736</td>
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<tr>
<td>Oceanside</td>
<td>41,980</td>
<td>29%</td>
<td>48,205</td>
<td>53,283</td>
<td>53,998</td>
</tr>
<tr>
<td>Poway</td>
<td>30,851</td>
<td>20%</td>
<td>34,010</td>
<td>35,708</td>
<td>37,173</td>
</tr>
<tr>
<td>San Diego</td>
<td>742,718</td>
<td>31%</td>
<td>830,107</td>
<td>896,404</td>
<td>971,259</td>
</tr>
<tr>
<td>San Marcos</td>
<td>37,608</td>
<td>71%</td>
<td>45,783</td>
<td>54,902</td>
<td>64,328</td>
</tr>
<tr>
<td>Santee</td>
<td>14,519</td>
<td>28%</td>
<td>16,499</td>
<td>18,323</td>
<td>18,570</td>
</tr>
<tr>
<td>Solana Beach</td>
<td>7,568</td>
<td>16%</td>
<td>8,156</td>
<td>8,533</td>
<td>8,803</td>
</tr>
<tr>
<td>Vista</td>
<td>35,840</td>
<td>36%</td>
<td>40,965</td>
<td>48,065</td>
<td>48,814</td>
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<tr>
<td>Unincorporated</td>
<td>116,268</td>
<td>41%</td>
<td>131,490</td>
<td>144,318</td>
<td>163,933</td>
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<tr>
<td>Region</td>
<td>1,346,969</td>
<td>34%</td>
<td>1,520,180</td>
<td>1,665,994</td>
<td>1,807,461</td>
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### Table J.3
**Series 13 Regional Growth Forecast Total Housing Units by Jurisdiction**

<table>
<thead>
<tr>
<th>Jurisdictions</th>
<th>2012</th>
<th>2020</th>
<th>2035</th>
<th>2050</th>
<th>Change (2012-2050)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td></td>
<td></td>
<td></td>
<td>Percent</td>
</tr>
<tr>
<td>Carlsbad</td>
<td>45,171</td>
<td>48,448</td>
<td>50,261</td>
<td>50,505</td>
<td>5,334</td>
</tr>
<tr>
<td>Chula Vista</td>
<td>79,255</td>
<td>89,176</td>
<td>101,188</td>
<td>108,273</td>
<td>29,018</td>
</tr>
<tr>
<td>Coronado</td>
<td>9,596</td>
<td>9,668</td>
<td>9,697</td>
<td>9,801</td>
<td>205</td>
</tr>
<tr>
<td>Del Mar</td>
<td>2,637</td>
<td>2,646</td>
<td>2,653</td>
<td>2,674</td>
<td>37</td>
</tr>
<tr>
<td>El Cajon</td>
<td>35,934</td>
<td>36,180</td>
<td>38,163</td>
<td>40,758</td>
<td>4,824</td>
</tr>
<tr>
<td>Encinitas</td>
<td>25,586</td>
<td>26,146</td>
<td>26,765</td>
<td>27,686</td>
<td>2,100</td>
</tr>
<tr>
<td>Escondido</td>
<td>48,333</td>
<td>53,564</td>
<td>55,567</td>
<td>56,034</td>
<td>7,701</td>
</tr>
<tr>
<td>Imperial Beach</td>
<td>9,863</td>
<td>10,001</td>
<td>10,926</td>
<td>11,528</td>
<td>1,665</td>
</tr>
<tr>
<td>La Mesa</td>
<td>25,840</td>
<td>26,460</td>
<td>30,001</td>
<td>33,407</td>
<td>7,567</td>
</tr>
<tr>
<td>Lemon Grove</td>
<td>8,813</td>
<td>9,118</td>
<td>9,654</td>
<td>10,526</td>
<td>1,713</td>
</tr>
<tr>
<td>National City</td>
<td>16,720</td>
<td>17,458</td>
<td>20,877</td>
<td>24,736</td>
<td>8,016</td>
</tr>
<tr>
<td>Oceanside</td>
<td>65,469</td>
<td>67,817</td>
<td>70,395</td>
<td>70,942</td>
<td>5,473</td>
</tr>
<tr>
<td>Poway</td>
<td>16,545</td>
<td>16,855</td>
<td>17,685</td>
<td>17,839</td>
<td>1,294</td>
</tr>
<tr>
<td>San Diego</td>
<td>518,137</td>
<td>559,143</td>
<td>640,668</td>
<td>695,703</td>
<td>177,566</td>
</tr>
<tr>
<td>San Marcos</td>
<td>28,539</td>
<td>32,625</td>
<td>35,795</td>
<td>37,337</td>
<td>8,798</td>
</tr>
<tr>
<td>Santee</td>
<td>20,124</td>
<td>21,490</td>
<td>22,776</td>
<td>23,886</td>
<td>3,762</td>
</tr>
<tr>
<td>Solana Beach</td>
<td>6,521</td>
<td>6,583</td>
<td>6,833</td>
<td>7,121</td>
<td>600</td>
</tr>
<tr>
<td>Vista</td>
<td>30,860</td>
<td>31,012</td>
<td>35,307</td>
<td>40,181</td>
<td>9,321</td>
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<tr>
<td>Unincorporated</td>
<td>171,875</td>
<td>185,294</td>
<td>209,572</td>
<td>222,998</td>
<td>51,123</td>
</tr>
<tr>
<td>Region</td>
<td>1,165,818</td>
<td>1,249,684</td>
<td>1,394,783</td>
<td>1,491,935</td>
<td>326,117</td>
</tr>
</tbody>
</table>
Figure J.1
San Diego Region Population, Jobs, and Housing Forecast
RESOLUTION NO. 2016-06

A RESOLUTION OF THE SAN DIEGO ASSOCIATION OF GOVERNMENTS (SANDAG) BOARD OF DIRECTORS ADOPTING THE AIR QUALITY CONFORMITY DETERMINATION, FINDING THE SUSTAINABLE COMMUNITIES STRATEGY ACHIEVES THE REGIONAL GREENHOUSE GAS REDUCTION TARGETS, AND ADOPTING THE FINAL 2050 REGIONAL GROWTH FORECAST, AND SAN DIEGO FORWARD: THE REGIONAL PLAN, INCLUDING ITS SUSTAINABLE COMMUNITIES STRATEGY

WHEREAS, SANDAG is the federally designated Metropolitan Planning Organization (MPO), pursuant to Title 23 United States Code Sections 134(a) and (g), and the state designated Regional Transportation Planning Agency (RTPA) for the San Diego County region pursuant to California Public Utilities Code Section 132005; and

WHEREAS, Title 23, Part 450 and Title 49 of the Code of Federal Regulations (CFR), require SANDAG, as the MPO, to prepare and update a long-range Regional Transportation Plan (RTP) every four years; and

WHEREAS, Section 65080 of the California Government Code requires SANDAG as the RTPA to prepare and update a long-range RTP and Sustainable Communities Strategy (SCS) every four years; and

WHEREAS, on October 11, 2011, the SANDAG Board of Directors found the prior Revenue Constrained 2050 Regional Transportation Plan (prepared in 2011) in conformance with the State Implementation Plans (SIPs) for air quality, in accordance with the transportation conformity requirements contained in 40 CFR Part 51 and Part 93, as required by the 1990 Clean Air Act Amendments; and with the 2009 Regional Air Quality Strategy (RAQS), in accordance with California law; and

WHEREAS, Section 132360 of the California Public Utilities Code states that SANDAG should update its Regional Comprehensive Plan (RCP) so that it is compatible with its RTP; and

WHEREAS, on May 25, 2012, the SANDAG Board of Directors directed staff to combine the Regional Comprehensive Plan and the RTP/SCS into one comprehensive planning document for the region; and

WHEREAS, from October 2012 through October 2015, through the conduct of a continuing, comprehensive, and coordinated transportation planning process in conformance with all applicable federal and state requirements, SANDAG developed its latest RTP, San Diego Forward: The Regional Plan (Regional Plan), with a 2050 horizon year, which incorporates an SCS for the San Diego region; and

WHEREAS, the Regional Plan serves as a blueprint for how the San Diego region will grow, and how SANDAG and other agencies in the region will invest in transportation infrastructure that will provide more choices, strengthen the economy, promote a healthy environment, and support thriving communities. The Regional Plan serves as the RTP and it includes the mandatory policy, action, and financial elements as identified in the Code of Federal
Regulations Title 23 Part 450 and Title 49, Part 613, and the SCS and other State RTP requirements as identified in California Government Code Section 65080; and

WHEREAS, the Regional Plan considers, analyzes, and reflects, as appropriate, the metropolitan transportation planning process as identified in the federal Moving Ahead for Progress in the 21st Century Act (P.L. 112-141) as well as the National Highway System Designation Act of 1995, and is based on reasonably available funding provisions; and

WHEREAS, the Regional Plan serves as a Congestion Management Process, identifying the most serious congestion problems and evaluating and incorporating, as appropriate, all reasonably available actions to reduce congestion, such as Travel Demand Management and operational management strategies for all corridors with any proposed capacity increase; and

WHEREAS, SANDAG has conducted an air quality analysis of the Regional Plan, utilizing the most recent planning assumptions, emissions model, and consultation provisions that meet California Environmental Quality Act (Public Resources Code Section 21000 et. seq.) requirements and includes a quantitative regional emissions analysis that meets emissions budget requirements of the U.S. Environmental Protection Agency transportation conformity rule; and

WHEREAS, the Regional Plan contributes to all required emissions reductions, and

WHEREAS, transportation control measures (TCMs) from the 2009 RAQS and 1982 SIP for air quality have been given emphasis in the Regional Plan, which provides for the expeditious implementation of all applicable TCMs; and

WHEREAS, the Regional Growth Forecast was developed for planning purposes by working with local jurisdictions, and projects growth based on existing land use plans and policies, and demographic and economic trends, which represent the most recent planning assumptions; and

WHEREAS, the Preliminary 2050 Regional Growth Forecast was accepted by the SANDAG Board of Directors on October 15, 2013, for planning purposes; and

WHEREAS, pursuant to Government Code Section 65080(b)(2)(E) and federal public participation requirements (23 CFR Part 50), the Regional Plan, including its SCS, was developed through a strategic, proactive, comprehensive public outreach and involvement program, which included an adopted public participation plan; routine distribution of information to local/regional media to secure media coverage; advertising in local and regional newspapers; distribution of public information materials, such as brochures and newsletters; a robust speakers bureau effort; a dedicated website; interactive web-based activities; a community-based outreach program; nine subregional workshops on the policy elements of the Regional Plan, a meeting on March 27, 2013, with representatives from the County Board of Supervisors and from all city councils, noticed to the clerks of the Board of Supervisors and cities, pursuant to Government Code Section 65080(b)(2)(E); seven subregional workshops in May 2015 to facilitate public comment on the Draft Regional Plan including one workshop conducted entirely in Spanish and three workshops streamed live on the internet via the San Diego Forward website; and two noticed public hearings to receive testimony on the Draft Regional Plan, its SCS, and the Environmental Impact Report; and interagency coordination and involvement; and

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WHEREAS, pursuant to Government Code Section 65080(b)(2)(B), the SANDAG SCS: (i) identifies the general location of uses, residential densities, and building intensities within the region; (ii) identifies areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth; (iii) identifies areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Government Code Section 65584; (iv) identifies a transportation network to service the transportation needs of the region; (v) gathers and considers the best practically available scientific information regarding resource areas and farmland in the region as defined in subdivisions (a) and (b) of Government Code Section 65080.01; (vi) considers the state housing goals specified in Sections Government Code 65580 and 65581; and (viii) allows the RTP to comply with Section 176c of the federal Clean Air Act (42 U.S.C. Sec. 7506); and

WHEREAS, pursuant to Government Code Section 65080(b)(2)(G), the SCS considered spheres of influence adopted by the San Diego Local Agency Formation Commission; and

WHEREAS, pursuant to Government Code Section 65080(b)(2)(B)(vii), the SCS set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, if implemented, will reduce the greenhouse gas (GHG) emissions from automobiles and light trucks to achieve the regional GHG emission targets set by the California Air Resources Board (ARB); and

WHEREAS, the Regional Plan includes the elements of the RCP pursuant to Section 132360 et seq. of the California Public Utilities Code and SANDAG followed the public participation and consultation process described therein, and

WHEREAS, ARB set the per capita GHG emission reduction targets for automobiles and light trucks for the San Diego region at 7 percent by 2020 and 13 percent by 2035 from a 2005 base year.

NOW THEREFORE BE IT RESOLVED BY the SANDAG Board of Directors that the foregoing recitals are true and correct and incorporated by this reference; and

BE IT FURTHER RESOLVED THAT the SANDAG Board of Directors finds the Revenue Constrained Regional Plan is in conformance with all applicable SIP requirements for air quality, and the 2007 Eight-Hour Ozone Attainment Plan in accordance with the transportation conformity requirements contained in 40 CFR Part 51 and Part 93, as required by Section 176(c) of the federal Clean Air Act (42 U.S.C. Sec. 7506) of the 1990 Clean Air Act Amendments; and with the 2009 RAQS, in accordance with California law; and

BE IT FURTHER RESOLVED that the SANDAG Board of Directors finds that the Regional Plan, including its SCS, if implemented, achieves the regional GHG reduction targets established by the ARB and meets the requirements of Senate Bill 375 (Steinberg, 2008) as codified in Government Code §65080(b) et seq.; and
BE IT FURTHER RESOLVED that the SANDAG Board of Directors does hereby adopt San Diego Forward: The Regional Plan, including its SCS, and the Final 2050 Regional Growth Forecast for the San Diego region.

PASSED AND ADOPTED this 9th day of October 2015.

ATTEST:

CHAIR

SECRETARY

MEMBER AGENCIES: Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista, and County of San Diego.

ADVISORY MEMBERS: California Department of Transportation, Metropolitan Transit System, North County Transit District, Imperial County, U.S. Department of Defense, San Diego Unified Port District, San Diego County Water Authority, Southern California Tribal Chairmen's Association, and Mexico.
### Updated Public Comments and Responses on the Draft Regional Plan

**ADDITIONAL COMMENTS NOT INCLUDED IN THE SEPTEMBER 11, 2015, BOARD OF DIRECTORS POLICY MEETING MATERIALS**

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Agency</th>
<th>Comment</th>
<th>Response</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>948</td>
<td>Lauren Ferney</td>
<td></td>
<td>Please take this opportunity to step up your leadership. If you don’t feel responsible for the whole issue and reduction targets, who else do you need to get involved? Throwing up your hands is not the leadership we expect to see. Nor are we desperately need a society and region. Identify the true gap and assign responsibly to someone, even if you have to have big buckets like “business reductions TBD.”</td>
<td>The Climate Change Mitigation and Adaptation White Paper, included in Appendix Q, describes the role that the State, SANDAG and local governments each play in reducing GHG emissions and preparing for impacts of climate change. As described in draft Chapter 2 of the Regional Plan, SANDAG works closely with local governments, other agencies, and regional stakeholders to advance GHG reduction strategies across all emission sources. The draft Regional Plan meets the SB 375 per capita greenhouse gas emissions reduction targets from cars and light duty trucks established by ARB.</td>
<td>Email</td>
</tr>
<tr>
<td>949</td>
<td>Lisa Wellens</td>
<td>San Diego</td>
<td>NO SIGNIFICANT CHANGE: Since we first engaged with SANDAG in 2011 regarding the Regional Transportation Plan (RTP), we had hoped and anticipated that San Diego Forward would be an improvement over RTP 2050. In reviewing the San Diego Forward 2015 Regional Plan and DEIR, we are disappointed to find the current draft is little improved over the plan that was adopted in 2011. The San Diego region remains on a trajectory that fails to meet state greenhouse-gas (GHG) reduction targets.</td>
<td>AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 required that ARB develop a Scoping Plan presenting the main strategies California will implement to reduce statewide GHG emissions to 1990 levels by 2020. ARB approved the initial Scoping Plan in 2008, and approved the first update to the Scoping Plan in 2014. The update concludes that California is on track to meet the 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020. While the update discusses setting a mid-term target between 2020 and 2050, it does not recommend any numeric post-2050 “balance.” Senate Bill 375 provides for a planning process to coordinate land use planner and RTP to help California meet the GHG reductions established in AB 32. SB 375 requires RTP prepared by MPOs, including SANDAG, to incorporate an SCS in its RTPs that demonstrates how the region would achieve GHG emission reduction targets set by ARB. On September 23, 2010, ARB adopted regional targets for major MPOs. SANDAG’s current targets are per capita CO2 emission reductions from passenger vehicles of 7 percent by 2020 and 13 percent by 2035 relative to 2005 levels, and the proposed Plan meets and exceeds these targets.</td>
<td>Letter</td>
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<td>950</td>
<td>Sara Kent</td>
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<td>In analyses of various mobility options to serve the growing San Diego population, the presumption is that SANDAG must build roads. No other approach to moving people and goods throughout the region is given equal consideration. The ”balance” you acknowledge you must consider and implement to provide a variety of transportation options to serve the whole of San Diego’s population has long been weighted in favor of roads. This is a failure in your own terms when you use the word “balance.” Wider freeways now and promise a few new transit projects later is insufficient to actually provide a variety of functional mobility options, and you are far overdue to shift the priority to other modes of transport to correct this imbalance. The longer you delay implementation of functional, integrated transit, the more it will cost. It is imperative to prioritize transit infrastructure now, without further needless delay. Your bias favoring roads has served to create polluting congestion with limited non-car options that is our current reality. This continued approach does not take into account one of the most important segments of our population: the young who will be middle aged and older adults by the time many of the roadway projects listed in the DEIR will be built, and who have a declining interest in personal car ownership and driving (Exhibit “A,” attached).</td>
<td>The Draft Regional Plan is based on the concept of creating a wide range of transportation choices to driving alone, including increased transit services, carpooling/pooling, bicycling, and walking. In many cases, the specific projects included in the Regional Plan are aimed at accommodating multiple alternatives; for example, a new trolley line would include the development of “mobility hubs” that enable a wide range of options for accessing station sites such as bike lockers, carshare and bike share services, and shuttle services. Managed Lanes facilities provide priority access for Rapid transit services and carpool/vanpooling. In addition, Managed Lanes facilities also serve as a congestion-free bypass of congested main lanes. The draft Regional Plan calls for five new trolley lines, 32 new Rapid transit services, continued TransiCap and operations account for half of the investments proposed in the draft Regional Plan. A good portion of the remaining investment is proposed for services and programs that support travel by transit. The draft Regional Plan calls for five new trolley lines, 32 new Rapid transit services, continued COASTER double tracking, SPRINTER Express service, as well as an extension to Westfield North County. Your new streetcar lines, and three new intermodal transit centers. Transit, therefore, will be a key element in meeting our future mobility needs along with other projects that will create a wide range of time-competitive and convenient alternatives to driving alone.</td>
<td>Letter</td>
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<td>951</td>
<td>Sara Kent</td>
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<td>We can’t have our way out of the current problem, and more pavement certainly will not serve to meet state greenhouse gas emissions, stormwater runoff pollution, nor traffic congestion (Exhibit “B,” attached) and will not adequately serve the San Diegans of the future. Clearly, as referenced in Figure 4.8-1, priorities must shift if we ever hope to reach the greenhouse gas reduction targets necessary to achieve climate stabilization. There is a remedy. It is an approach to transportation that can exceed state emissions reductions requirements, provide complete mobility choice, benefit the local economy, and protect San Diego’s future without impacts. You, our heavily funded transportation agency, are obligated to study it, seek federal, state and local funding for it, and prioritize implementation of it. Expanding roads and their negative</td>
<td>The Draft EIR Sections 4.8, 4.10, and 4.15 analyze the GHG emissions, hydrology, and water quality, and transportation impacts of the proposed Plan, respectively. Also the Draft EIR GHG analyses properly considers consistency with the state’s ability to achieve Executive Order goals. Regarding the feasibility of achieving further substantial reductions, the Draft EIR (pp. 4.8-37 through 4.8-39) explains the infeasibility of an alternative (or mitigation measures) that could meet regional reference points based on the state 2030 and 2050 GHG reduction goals. Such an alternative has more major feasibility concerns than Alternative 5D. Recent studies have shown that full implementation of many of the measures that could result in a 40% reduction of GHG emissions by 2030 and an 80% reduction of GHG emissions by 2050 in the San Diego region would require major changes in clean technologies utilization, markets, and state and federal policies and regulations. Full implementation of these changes is beyond SANDAG’s or local agencies’ current ability to implement.</td>
<td>Letter</td>
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<td>952</td>
<td>Sara Kent</td>
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<td>Your current proposal contains all the same road-based projects as the prior iteration of the RTP, although in the years past these projects have increased. Thus, transit projects have been removed in comparison to the prior plan, the proposed Plan advances completion of a new Trolley line and SPRINTER rail line frequency improvements to earlier phases of the Plan, adds seven new transit projects to</td>
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Updated Public Comments and Responses on the Draft Regional Plan

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<td>Sara Kent</td>
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<td>While some of you give lip service to such principles as &quot;Vision Zero&quot; and its goal of zero pedestrian and traffic deaths, you continue to perpetuate the paradigm that can only be obtained through traffic-related deaths, not only from collisions, but also the slower forms of death caused by particulate matter emissions from vehicles powered by fossil fuels. Much like the discussion of human health impacts in the DRTP concluding in a veritable shrug ('impacts are inevitable, because we build roads'), you among SANDAG leadership refuse to meaningfully study or adopt any vision for the region that does not include an expansion of existing freeways. This is despite documented benefits of a no new roads plan to accommodate the transportation needs of the region by maintaining but without expanding existing freeways and instead adding significant investments in light rail transit networks and safe active transportation infrastructure. The Draft Regional Plan includes funding for pedestrian improvements such as marked crosswalks, through safe routes to transit projects, bicycle and pedestrian improvements at freeway interchanges, Regional Bike Network Projects, and through the Active Transportation Grant program and Smart Growth Incentive Program.</td>
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<td>Sara Kent</td>
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<td>Although presented to SANDAG on multiple occasions by various individuals and organizations, I include here a copy of the Cleveland National Forest Foundation's 50-10 Transit Plan: A World Class Transit System for the San Diego Region (Exhibit &quot;C&quot;), which lays out the feasibility and framework of implementing fifty one years' worth of projected transit in ten years. Realistically, the first phase of such transit investments would build out capacity along existing rail lines within the first ten years, which would lay the foundation for the expansion of the network arterials in the following decades. More recently in April of this year, the same renowned expert, Norman L. Marshall of Smart Mobility, Inc., released a supplemental report: &quot;The 50-10 Transit Plan: Quantifying the Benefits.&quot; (Exhibit &quot;D&quot;). The human and environmental benefits of the proposed planning approach as discussed in the new report significantly outline those documented in the DRTP, the plan deserves more than a dismissive response by you who are hold San Diego's transportation future in your hands. I encourage thorough consideration of the documentation enclosed, primarily the quantification of the benefits of the 50-10 Plan. It is your duty to build mobility options for San Diegans that will not exacerbate greenhouse gas emissions to further degrade our health and increase climate instability.</td>
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<td>983</td>
<td>Carl S. Morgan</td>
<td>North County Economic Development Corporation</td>
<td>On behalf of the San Diego North Economic Development Council (SENDNC) Board of Directors, we are writing to express our support of the San Diego Forward Plan. The Regional Plan, as recommended by SANDAG, our organization represents 26 cities and unincorporated communities in North San Diego County. The continued growth of our key industry clusters is dependent on significant planned infrastructure investment to ensure efficient movement of vehicle traffic through the city. San Diego Forward’s planned expenditures for the improvement of the interchange at I-5 and State Route 78 are critical to keeping the traffic flowing south and east through our North County Community. In order to maintain the balanced approach, which maintains the projects in the pipeline and does not favor one approach at the expense of another, we feel the SANDAG recommendation in the San Diego Forward Plan is the best option. The plan follows through on the projects approved in the TransNet ballot measure and keeps faith with the voters by avoiding any significant shift of funds, causing delays and possible loss of needed managed lane projects and other highway improvements I-5 and 78 interchanges.</td>
<td>Thank you for your comments. SANDAG will continue to work with the San Diego North Economic Development Council to support infrastructure investments and funding opportunities in North County.</td>
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The Draft EIR for the Regional Plan analyzes a range of alternatives. All action alternatives advance 25 years of transit into the first 10 years of the plan (from 2015 to 2050, which is the horizon year of the plan) similar in concept to the 5010 Transit Plan. The 5010 Transit Plan also envisions delays in highway The 5010 Transit Plan also envisions delays in highway investments similar to those included in Draft EIR Alternatives 3, 4, and 5A through SD. The feasibility of these alternatives is affected by funding constraints, among other factors. The Board of Directors will consider the comparative merits of the alternatives in the EIR when they consider adoption of the final Plan.

Regarding the feasibility of achieving regional greenhouse gas emissions reductions targets set by Executive Orders S-3-05 and B-30-15, recent studies have shown that full implementation of many of the measures could result in a 40% reduction of GHG emissions by 2030 and an 80% reduction of GHG emissions by 2050 in the San Diego region would require major changes in clean technologies utilization, markets, and state and federal policies and regulations. Full implementation of these changes is beyond SANDAG’s or local agencies’ current ability to implement.

Public health has been considered throughout the Regional Plan update process. The Draft Plan includes a Public Health White Paper, Project Evaluation Criteria, Performance Measures, Alternative Transportation Scenarios, and the Preferred Transportation Network, all of which take public health into consideration.

San Diego Forward’s planned expenditures for the improvement of the interchange at I-5 and State Route 78 are critical to keeping the traffic flowing south and east through our North County Community.

The DRTP concluding in a veritable shrug ('impacts are inevitable, because we build roads'), you among SANDAG leadership refuse to meaningfully study or adopt any vision for the region that does not include an expansion of existing freeways.

Updated Public Comments and Responses on the Draft Regional Plan

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<td>985</td>
<td>Jerry Sanders</td>
<td>San Diego Regional Chamber of Commerce</td>
<td>On behalf of the San Diego Regional Chamber of Commerce, I am writing to express our strong support for the SANDAG Draft Regional Plan. San Diego Forward invests over $200 billion in the regional transportation network, which will be critical to support the additional one million people that the region is expected to grow by. This addition to our population equates to an additional 330,000 homes and 500,000 new jobs in the region, a significant growth that our business community eagerly looks forward to. The leading voice for business in the region, the Chamber is acutely aware of the impact that transportation availability, access and efficiency has on the local economy. We are uniquely situated for substantial growth in key industry sectors in the near future, but if we cannot adequately get folks to and from our businesses, we will struggle to attract and retain the talent necessary for a thriving regional business sector. San Diego Forward will promote smart growth and transportation options that take into account the changes commuting preferences of future workforce populations, and preserving the quality of life for individuals working and living here currently. This plan is a comprehensive approach to guiding the way our region grows, and anticipating additional ways for our community to be competitive in an increasingly global market. Goods movement, transit improvement and preservation of open space - all addressed in this proposal, are reflective of San Diego's unique culture that has successfully and consistently attracted businesses and families. We support San Diego Forward. The Regional Plan, and look forward to the opportunity to assist in its success.</td>
<td>Thank you for your support. SANDAG will continue to work with the Otay Chamber of Commerce to support infrastructure investments, policies, projects, and programs to make the region both more competitive globally and to attract business while improving the lives of those who make the region their home.</td>
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<td>986</td>
<td>Monique Lopez and Randy Van Mark</td>
<td>Environmental Health Coalition and City Heights CDC</td>
<td>We would like to thank you for your vote at the SANDAG Board in favor of designating $31 million for a pilot demonstration project which would implement one of the innovative community-supported alternatives, bus on shoulder/median (Agenda Item 12, July 24, 2015). Additionally, we are particularly supportive of the inclusion of innovative community-supported alternatives in the Draft Environmental Impact Report. We see this as a positive step in ensuring better regional and local mobility and recreating the Martin Luther King, Jr. Freeway as a complete corridor. Ensuring that communities of Golden Hill and Sherman Heights have access to both the South Bay Rapid and Centerline 235 Rapid buses through the inclusion of a transit stop is critically important for regional and local mobility and we look forward to continuing the conversation with the SANDAG Board regarding this important feature of the project. We are committed to continuing to engage in the process to ensure a project that best meets the community's needs and priorities. Please let us know how we may serve as a resource and be available to you and your staff throughout the process. We look forward to working with you and your staff moving forward on this important project.</td>
<td>Thank you for your support of this project and we look forward to your continued interest as it advances through the environmental review stages. Additionally, a transit station will be added to the Final Plan to be constructed in the vicinity of 28th Street on State Route 94 to facilitate Rapid access to these communities.</td>
<td>Email</td>
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<td>987</td>
<td>Alejandra Mata y Taran</td>
<td>Otay Mesa Chamber of Commerce</td>
<td>The Otay Mesa Chamber of Commerce appreciates the opportunity to provide feedback on the San Diego Regional Forward Plan. We very much appreciate your strong support for several important projects in our community that enhance cross-border trade opportunities in Southern CA and therefore sustain hundreds of jobs in our region: A125:11 East Otay Mesa Port of Entry, B1 SR 125/905 Connectors, as well as other border related</td>
<td>Thank you for your support. SANDAG will continue to work with the Otay Chamber of Commerce to support infrastructure investments, policies, projects, and programs to facilitate cross-border trade. The Regional Plan includes a number of improvements to north-south highway corridors to allow for the efficient movement of people and goods.</td>
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### Comment from Mona Rios and Алексадра Soleto-Solis, City of National City

Thank you for the opportunity to comment on the Draft San Diego Forward: The Regional Plan (Draft Plan) and thank you to the staff who have worked so hard these past couple of years to complete this draft. As current Alternates on the SANDAG Board of Directors and City Councilmembers representing the citizens on National City, we believe it is critical to provide feedback and ensure that we at SANDAG focus on environmental and economic sustainability by investing in transportation infrastructure that is faster, more efficient, provides more choices, promotes a healthy environment, and promotes equity in traditionally overburdened communities such as National City. Although the Draft Plan does include projects such as the proposed “Purple Line” Trolley which meets these goals, projects such as the proposed I-5 Widening are more environmentally and economically costly than innovative, transit-focused alternatives. In addition, the Draft Plan in its current form does not reach our proportionate share of state-mandated GHG emission reductions.

The proposed “Purple Line” Trolley is an example of an ambitious and innovative mobility project that would promote a healthy environment and economic upward mobility by connecting National City and South Bay communities with Kearny Mesa, one of the region’s largest employment centers. We look forward to working with SANDAG to make this project a reality before 2035.

We request that SANDAG replace the I-5 Widening and Rapid Bus projects, which are estimated at $3 billion, with projects that would require improvements in downtown as well to increase carrying capacity along Park Blvd and C Street which currently operate at capacity. This would require implementation of the Downtown Tunnel project, which is estimated at $2.66 billion. In the evaluation of all proposed transit projects, including the downtown Trolley tunnel and Blue Line Express, the Purple Line (Route 562) was the top ranked project because of the limited funding available in the Revenue Constrained Plan, there is not sufficient funding capacity to include both the Purple Line ($2.97 billion) and the Blue Line Express/Downtown Tunnel projects. The latter two projects are still in the Plan, but in the Unconstrained project listing. While Blue Line Express is not in the revenue constrained plan, Rapid 640 is included and would provide similar limited stop express service along the I-5 corridor.

The I-5 widening to accommodate the two additional general purpose lanes in this area is included due to bottleneck conditions that routinely occur as a result of merging of both SR 54 and SR 15 freeway traffic. During peak hours, the segment of I-5 between SR 54 and SR 15 is severely impacted by this additional traffic which exceeds the capacity of the current facility. This is projected to worsen over time if no improvements were made. The general purpose lane improvement would help to alleviate this bottleneck. Additionally, the improvement of the two managed lanes is phased at the same time as the general purpose lanes on this corridor by 2035. These managed lane improvements would provide access to the Rapid lanes serving this corridor (National City) and would be managed to prioritize transit access and optimal transit travel speeds. With these Managed Lane improvements, Rapid service would provide auto-equivalent service between National City, Downtown San Diego and Kearny Mesa.

Draft EIR action alternatives 5A through 5D eliminate the Plan’s investments in managed lanes and highway general purpose lanes and would require significant increases in existing highway general purpose lanes to accommodate traffic. The Blue Line Express project estimated cost of $3.931 billion is for track and station improvements south of downtown needed to allow for express train operations. The additional trains from the Blue Line Express would require improvements in downtown as well to increase carrying capacity along Park Blvd and C Street which currently operate at capacity. This would require implementation of the Downtown Tunnel project, which is estimated at $2.66 billion. In the evaluation of all proposed transit projects, including the downtown Trolley tunnel and Blue Line Express, the Purple Line (Route 562) was the top ranked project because of the limited funding available in the Revenue Constrained Plan, there is not sufficient funding capacity to include both the Purple Line ($2.97 billion) and the Blue Line Express/Downtown Tunnel projects. The latter two projects are still in the Plan, but in the Unconstrained project listing. While Blue Line Express is not in the revenue constrained plan, Rapid 640 is included and would provide similar limited stop express service along the I-5 corridor.

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Draft EIR action alternatives 5A through 5D eliminate the Plan’s investments in managed lanes and highway general purpose lanes and would require significant increases in existing highway general purpose lanes to accommodate traffic.

Thanks for reviewing the Draft Regional Plan and providing feedback. The “Purple Line” Trolley would provide a number of benefits to residents along the I-5 corridor, providing direct connections to job centers to the north and improvements to overall transit mobility in South County. We are beginning initial planning studies for the line this fall.

Senate Bill 375 provides for a planning process to coordinate land use planning and regional transportation plans (RTPs) to help California meet the greenhouse gas emissions reductions established in Assembly Bill 375. SB 375 requires RTPs prepared by Metropolitan Planning Organizations, including SANDAG, to incorporate a Sustainable Communities Strategy in their RTPs that demonstrates how the region would achieve GHG emission reduction targets set by the California Air Resources Board (ARB). On September 23, 2010, ARB adopted regional targets for major MPOs. SANDAG’s current targets are per capita CO2 emission reductions from passenger vehicles of 7 percent by 2020 and 13 percent by 2035 relative to 2005 levels, and the Regional Plan meets and exceeds these targets.

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<td>Mona Rios and Alexandra Soleto-Solis</td>
<td>City of National City</td>
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<td>Thanks for reviewing the Draft Regional Plan and providing feedback. The “Purple Line” Trolley would provide a number of benefits to residents along the I-5 corridor, providing direct connections to job centers to the north and improvements to overall transit mobility in South County. We are beginning initial planning studies for the line this fall.</td>
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<td>Mona Rios and Alexandra Soleto-Solis</td>
<td>City of National City</td>
<td>Although the proposed I-5 Widening is being promoted as supporting transit, the project also includes General Purpose Lanes for the entire National City segment that does not serve transit. The proposed Rapid Bus (Route 640) would operate on the I-5 Managed Lanes, whose use would be shared by high-occupancy vehicles and potentially congestion-priced single-occupancy users, therefore limiting the effectiveness of the Rapid Bus, particularly during high traffic levels. We request that SANDAG replace the I-5 Widening and Rapid Bus scheduled for completion in 2035 with the Blue Line Express (Route 540), a project that was originally proposed in the previous 2011 Regional Transportation Plan: This is a project that the communities along the I-5 and Blue Line Trolley corridor, advocated for in the public hearing process, and one that better promotes environmental sustainability. With the proposed Blue Line Express costing $3.931 billion and the combined I-5 Widening and Rapid Bus Route 640 costing $744 million on targets, our request is economically sustainable and would save $353 million that could be spent on protected bike lanes, sidewalk improvements, smart growth incentives, and other mobility projects throughout the South Bay. Finally, we ask that SANDAG explore further alternatives to freeway expansions, similar to innovative work underway for SR-94. Those innovative alternatives include converting existing general purpose lanes to managed lanes to accommodate Rapid routes and explore the usage of existing right-of-way for transit-only lanes. We stand with our constituents in National City who have asked us to support a San Diego Forward: The Regional Plan that has a more significant movement toward reducing greenhouse gas emissions and towards ensuring transportation justice.</td>
<td>The Blue Line Express project estimated cost of $3.931 billion is for track and station improvements south of downtown needed to allow for express train operations. The additional trains from the Blue Line Express would require improvements in downtown as well to increase carrying capacity along Park Blvd and C Street which currently operate at capacity. This would require implementation of the Downtown Tunnel project, which is estimated at $2.66 billion. In the evaluation of all proposed transit projects, including the downtown Trolley tunnel and Blue Line Express, the Purple Line (Route 562) was the top ranked project because of the limited funding available in the Revenue Constrained Plan, there is not sufficient funding capacity to include both the Purple Line ($2.97 billion) and the Blue Line Express/Downtown Tunnel projects. The latter two projects are still in the Plan, but in the Unconstrained project listing. While Blue Line Express is not in the revenue constrained plan, Rapid 640 is included and would provide a similar limited stop express service along the I-5 corridor. The I-5 widening to accommodate the two additional general purpose lanes in this area is included due to bottleneck conditions that routinely occur as a result of merging of both SR 54 and SR 15 freeway traffic. During peak hours, the segment of I-5 between SR 54 and SR 15 is severely impacted by this additional traffic which exceeds the capacity of the current facility. This is projected to worsen over time if no improvements were made. The general purpose lane improvement would help to alleviate this bottleneck. Additionally, the improvement of the two managed lanes is phased at the same time as the general purpose lanes on this corridor by 2035. These managed lane improvements would provide access to the Rapid lanes serving this corridor (National City) and would be managed to prioritize transit access and optimal transit travel speeds. With these Managed Lane improvements, Rapid service would provide auto-equivalent service between National City, Downtown San Diego and Kearny Mesa. Draft EIR action alternatives 5A through 5D eliminate the Plan’s investments in managed lanes and highway general purpose lanes and would require significant increases in existing highway general purpose lanes to accommodate traffic.</td>
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## Updated Public Comments and Responses on the Draft Regional Plan

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<td>990</td>
<td>Kevin Schumacher</td>
<td>California Public Utilities Commission (CPUC)</td>
<td>Although the formal comment period has ended, please consider the comments below in future revisions. SANDAG’s ranking system for prioritization of rail grade separation projects in the San Diego region may not adequately prioritize safety. That process results in prioritization of some light rail crossings that have had no accidents ranking far higher than 90 MPMI railroad crossings that have experienced multiple fatal incidents in recent years.</td>
<td>Thank you for your review of the rail grade separation criteria and comments. The current criteria do take into account safety and awards 1 points - 26% of the non-Regional Housing Needs Allocation points to this category. The transportation project evaluation criteria, including the criteria for grade separations will be evaluated and refined as part of the development of the next Regional Plan and we will take your comments into consideration.</td>
<td>Email</td>
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<td>991</td>
<td>Ira Kaufman</td>
<td>Save Our Countryside and Cities</td>
<td>I am writing on behalf of the South County Economic Development Council (SCEDC) to express support for the San Diego Forward Plan. SCEDC represents almost 400 members throughout South County, including National City, Chula Vista, Bonita, Imperial Beach, parts of San Diego and Coronado focusing on promoting business and job creation in these communities. SCEDC has been a key partner in ensuring investments in infrastructure that accommodates growth in South County and the San Diego-Tijuana border region. We are writing to ask our SANDAG Board NOT to approve another Regional Transportation Plan (RTP) that fails to achieve the state-mandated climate targets of Executive Orders S-3-05 and B-30-15. The 2015 Regional Transportation Plan needs to be overhauled now to support the City of San Diego’s new Climate Action Plan and the San County General Plan. Both of these promote land use plans that decrease greenhouse gases by shifting growth back into our cities and serving this development with fewer freeways and more public transit. The RTP is completely out of step with these intentions. The 2015 RTP is essentially the same as the failed 2007 and 2011 plans. The 2011 RTP has twice been ruled to be in violation of CEQA, and we are seeing this summer the devastating effects of climate change – heat, wildfire, drought – throughout California. I hope &amp; pray there’s something there about moving the Amtrak mntnc station from the residentially populated Santa Fe Station to a more commercial area.</td>
<td>Thank you for your review of the rail grade separation criteria and comments. The current criteria do take into account safety and awards 1 points - 26% of the non-Regional Housing Needs Allocation points to this category. The transportation project evaluation criteria, including the criteria for grade separations will be evaluated and refined as part of the development of the next Regional Plan and we will take your comments into consideration.</td>
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<td>992</td>
<td>Save Our Countryside and Cities</td>
<td>Save Our Countryside and Cities</td>
<td>Save Our Countryside and Cities is a coalition of San Diego citizens who support the 2011 County General Plan and are opposing a number of General Plan Amendments that will scatter leapfrog urban projects across the unincorporated County. We have sent more than 500 letters to the County decision makers to tell them that our General Plan opposes village densities in rural places. For this reason, we oppose pouring millions of dollars into freeways that will only facilitate sprawl development at the expense of urban transit need. We are writing to ask our SANDAG Board NOT to approve another Regional Transportation Plan (RTP) that fails to achieve the state-mandated climate targets of Executive Orders S-3-05 and B-30-15. The 2015 Regional Transportation Plan needs to be overhauled now to support the City of San Diego’s new Climate Action Plan and the San County General Plan. Both of these promote land use plans that decrease greenhouse gases by shifting growth back into our cities and serving this development with fewer freeways and more public transit. The RTP is completely out of step with these intentions. The 2015 RTP is essentially the same as the failed 2007 and 2011 plans. The 2011 RTP has twice been ruled to be in violation of CEQA, and we are seeing this summer the devastating effects of climate change – heat, wildfire, drought – throughout California.</td>
<td>Thank you for your review of the rail grade separation criteria and comments. The current criteria do take into account safety and awards 1 points - 26% of the non-Regional Housing Needs Allocation points to this category. The transportation project evaluation criteria, including the criteria for grade separations will be evaluated and refined as part of the development of the next Regional Plan and we will take your comments into consideration.</td>
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<td>993</td>
<td>Cindy Grompens</td>
<td>South County Economic Development Council</td>
<td>I am writing on behalf of the South County Economic Development Council (SCEDC) to express support for the San Diego Forward Plan. SCEDC represents almost 400 members throughout South County, including National City, Chula Vista, Bonita, Imperial Beach, parts of San Diego and Coronado focusing on promoting business and job creation in these communities. SCEDC has been a key partner in ensuring investments in infrastructure that accommodates growth in South County and the San Diego-Tijuana border region. Last year, SCEDC embarked in carrying out its 5-year plan for leveraging major South County projects to improve our economic competitiveness. This goal requires a balanced approach to transportation that accommodates rapid bus routes. Similar to managed lanes, transit only lanes benefit Rapid bus routes by allowing them to bypass traffic congestion in general purpose travel lanes. Thank you for your support. The Regional Plan recognizes the importance of a balanced approach to transportation while supporting cross-border trade. The State Route 11 and the Otay Mesa East Port of Entry will facilitate binational trade, while the Trolley and Rapid projects, along with increases in transit frequencies, will provide more access to high quality jobs and improve overall transportation choices in South County.</td>
<td>Thank you for your review of the rail grade separation criteria and comments. The current criteria do take into account safety and awards 1 points - 26% of the non-Regional Housing Needs Allocation points to this category. The transportation project evaluation criteria, including the criteria for grade separations will be evaluated and refined as part of the development of the next Regional Plan and we will take your comments into consideration.</td>
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<td>994</td>
<td>Catheryn Mullinger</td>
<td>Mission Hills Church of Christ</td>
<td>I am disappointed to learn that the current version of the proposed RTP would build more highways, thus increasing greenhouse gas emissions and air pollution, making it impossible to reach the goals we MUST achieve if we're to have a livable future at all while not giving enough attention to public transit and active transportation in urban neighborhoods (walking, biking) that would increase transportation options for residents of all income levels. As the United Church of Christ’s General Minister and President, the Rev. John Dorhauer, says, “climate change is the most pressing moral issue of our time. If we fail to resolve this crisis, in time every other justice issue will be settled by a planet that will lose its capacity to sustain human community as we know it. We CANNOT continue “business as usual” that is, failing to make direct address to the problems of climate change in EVERY decision we make. Please continue working to achieve an RTP that responsibly takes the Big Picture of our current situation on earth into account.</td>
<td>The Regional Plan dedicates half of its projected expenditures to transit, a larger investment than any previous RTP. The Regional Plan creates a wide range of transportation choices to driving alone, including increased transit services, carpooling, vanpooling, bicycling, and walking. In many cases, the specific projects included in the Regional Plan are aimed at accommodating multiple transportation modes, including pedestrian, bicycle, and transit. For example, new trolley lines include the development of “mobility hubs” that enable a wide range of options for accessing station sites such as bike lockers, carshare and bike share services, and shuttle services. Managed Lanes facilities provide priority access for rapid transit services and carpool/vanpooling, giving users a congestion-free bypass of congested main lanes. The Regional Plan contains a rich network of both new trolley and Rapid lines, and creates network of 10-minute all day service on existing trolley, Rapid, and local bus services in urban areas. Transit, therefore, will be a key element in meeting our future mobility needs. The draft Regional Plan meets the per capita greenhouse gas emissions reductions targets for passenger vehicles established by the California Air Resources Board for 2020 and 2035 and will reduce per capita Vehicle Miles Traveled (VMT).</td>
<td>Email</td>
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<td>995</td>
<td>Bret Schanzenbach</td>
<td>Vista Chamber of Commerce</td>
<td>On behalf of the Vista Chamber of Commerce Board of Directors, we are writing to express our support of the San Diego Forward: The Regional Plan, as prepared by SANDAG. Our organization represents the interests of industry, business and landowners in the Vista area of North San Diego County. We are poised for growth in our community, and support all efforts to provide adequate public services along with responsible and sustainable growth strategies. With its central location in the county of San Diego, Vista will benefit with job creation within its sphere of influence. But, this job growth is dependent on significant infrastructure investment to ensure efficient goods movement, and transportation options that improved transit access through projects such as managed traffic lanes on the I-5 freeway will allow workers to be able to access new jobs. San Diego Forward promotes a sound, balanced strategy to accommodate our region’s future growth while protecting the environment, promoting economic development, and maintaining our quality of life.</td>
<td>Thank you for your support for the Regional Plan. The Regional Plan recognizes that the SR-78 improvements are of critical importance to facilitate access to jobs in North County and to connect workers to all parts of the region.</td>
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<td>996</td>
<td>Southern California Tribal Chairmen’s Association</td>
<td></td>
<td>The Southern California Tribal Chairmen’s Association (SCTCA) would like to submit this letter of support for San Diego Forward: The Regional Plan. We have worked closely with SANDAG over the last several years in this process to ensure that tribal issues and concerns are fairly considered in this regional plan. As neighbors, we need to be cognizant of the impact we have on each other. At the same time, SANDAG, as the Metropolitan Planning Organization responsible for developing the regional transportation plan, has a federal obligation to ensure that federally recognized tribal nations are also served by that system. We appreciate the time and resources that SANDAG has dedicated to implementing the tribal consultation plan that our agencies developed together. The consultation process was carried out to the letter in a timely and meaningful way. As former Viejas Chairman, Anthony Roco, noted in his keynote speech at the 2014 San Diego Regional Tribal Summit, “SANDAG opened its doors to us and tribes walked through.” Over the last several updates of the Regional Transportation Plan in San Diego we have observed advances in taking tribal issues into consideration. We submitted comments on the draft San Diego Forward and are pleased that many of our comments were acted upon, including changing the base maps to include tribal jurisdictions and incorporating the discussions from the Tribal Consultation Appendix E in the core. Thank you for your support for San Diego Forward. SANDAG considers our agreement to government framework with the tribal nations a critical aspect of our regional planning. The tribal perspective has enriched our outlook and understanding of the region. We look forward to continuing our collaborative planning to look for transportation solutions that work for everyone.</td>
<td>Thank you for your support for San Diego Forward. SANDAG considers our agreement to government framework with the tribal nations a critical aspect of our regional planning. The tribal perspective has enriched our outlook and understanding of the region. We look forward to continuing our collaborative planning to look for transportation solutions that work for everyone.</td>
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The Regional Plan creates a wide range of transportation choices to driving alone, including increased transit services, carpooling/vanpooling, bicycling, and walking. In many cases, the specific projects included in the Regional Plan are aimed at accommodating multiple transportation modes, including pedestrian, bicycle, and transit. For example, new trolley lines include the development of “mobility hubs” that enable a wide range of options for accessing station sites such as bike lockers, carshare and bike share services, and shuttle services. Managed Lanes facilities provide priority access for Rapid transit services and carpool/vanpooling, giving users a congestion-free bypass of congested main lanes. The Regional Plan contains a rich network of both new trolley and Rapid lines, and creates network of 10-minute all day service on existing trolley, Rapid, and local bus services in urban areas. Transit, therefore, will be a key element in meeting our future mobility needs.

In terms of new freeway miles, with the exception of the State Route 11 toll facility, the Regional Plan does not propose any new freeways. Included in the Plan are 160 miles of Managed Lanes that can be implemented to give priority access to transit, carpools, vanpools, motorcycles, and certain clean-air vehicles at no cost. Solo drivers, however, are provided the opportunity to utilize Express Lanes, but must pay a fee to do so. This fee, in turn, is reinvested to support transit services along the same corridor, such as the case with the Interstate 15 corridor.

Investments in new highway lanes and connectors account for about 6 percent of the Regional Plan’s funding. By comparison, the Regional Plan allocates about 50 percent of its funding to public transit. The highway improvements (including highway lanes, freeway connectors, and operational improvements) complement and complete the existing highway network.

Regarding induced traffic demand, the EIR Impact T-2 analysis demonstrates that the Regional Plan’s addition of lane miles does not induce substantial vehicle travel.

SANDAG recognizes that substantial reductions in global, state, and regional GHG emissions are an urgent priority, and strives in its regional plans and programs to do its part in reducing GHG emissions from all sources. As the EIR notes, total regional GHG emissions under the plan would not increase, but rather would decrease by about 25 percent from 2012 to 2050, and GHG emissions from passenger cars and light-duty vehicles would decrease by about 43 percent from 2012 to 2050 (see Draft EIR Table 4.8-8). The Draft EIR exhibit attached by the commenter is from the EIR Impact GHG-4 analysis. It compares total regional GHG emissions in 2050 to a 2050 emissions reduction reference point based on the San Diego region’s “equal share” of the statewide 2050 reduction target expressed in Executive Order S-3-05. Please see Master Response 3 of the Responses to Comments on the Draft EIR (EIR Appendix K-1) for detailed discussion of the EIR Impact GHG-4 analysis.

The Regional Plan includes funds to maintain and operate transit and highway projects throughout the life of the plan.

The EIR considers in detail four alternatives (5A-5D) to the proposed Plan that eliminate all of the proposed Plan’s investments in highway general purpose lanes and managed lanes. It also considers in detail Alternative 4, which eliminates the proposed Plan’s highway investments and reduces the scope of managed lane investments.
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<td>258</td>
<td>Lorena</td>
<td>Assembly, California</td>
<td>On behalf of my constituents residing in National City, who have taken great interest in the impact plans to expand I-5 would have on their communities. We recognize the great effort that has gone into drafting San Diego Forward. The Regional Plan and want to ensure its projects include options that help ensure the healthiest environment possible, provide greater access to affordable, reliable transportation for our working families and are most cost-efficient. My constituents have shared with my office their concerns regarding the impact an expanded freeway would have on the air quality of their neighborhoods. They have asked that more serious consideration be given to the Blue Line Express project for which communities living along I-5 and the Blue Line Trolley corridor advocated in the public hearing process. It has also been brought to my attention that the Blue Line Express project would cost $391M compared to the $744M needed to complete the widening of I-5, which includes General Purpose Lanes that may, potentially, impact the effectiveness of the proposed Rapid Bus project. I support my constituents in their request to have funding considered for projects that include bike lanes, smart growth incentives and other mobility projects throughout the South Bay. When so many members of our community take the time to unite, engage in healthy discussions, and bravely speak up, as these passionate residents have, it is only fitting that we give their concerns and ideas serious consideration. On behalf of my constituents, I thank you for your time and support. We appreciate the input and participation of your constituents throughout the development of San Diego Forward: The Regional Plan. The Blue Line Express project estimated cost of $391 million is for track and station improvements south of downtown needed to allow for express train operations. The additional trains from the Blue Line Express would require improvements in downtown as well to increase carrying capacity along Park Blvd and C Street, which currently operate at capacity. This would require implementation of the Downtown Tunnel project, which is estimated at $2.66 billion. In the evaluation of all proposed transit projects, including the Downtown Trolley tunnel and Blue Line Express, the Purple Line (Route 562) was the top ranked project. Because of the limited funding available in the Revenue Constrained Plan, there is not sufficient funding capacity to include both the Purple Line ($2.97 billion) and the Blue Line Express/Downtown Tunnel projects. The latter two projects are still in the Plan, but in the Unconstrained project listing. While Blue Line Express is not in the revenue constrained plan, Rapid 640 is included and would provide a similar limited stop express service along the I-5 corridor. The I-5 widening to accommodate the two additional general purpose lanes in this area is included due to bottleneck conditions that routinely occur as a result of merging of both SR 54 and SR 15 freeway traffic. During peak hours, the segment of I-5 between SR 54 and SR 15 is severely impacted by additional traffic which exceeds the capacity of the current facility. This is projected to worsen over time if no improvements were made. The general purpose lane improvement would help to alleviate this bottleneck. Additionally, the improvement of the two managed lanes are phased at the same time as the general purpose lanes on this corridor by 2035. These managed lane improvements would provide access to the Rapid lines serving this corridor (National City) and would be managed to prioritize transit access and optimal transit travel speeds. With these managed lane improvements, Rapid service would provide auto equivalent service between National City, Downtown San Diego and Kearny Mesa. Draft EIR action alternatives 6A through 5D eliminate the Plan’s investments in managed lanes and highway general purpose lanes and convert existing highway general purpose lanes to managed lanes to accommodate Rapid bus routes. Similar to managed lanes, transit only lanes benefit Rapid bus routes by allowing them to bypass traffic congestion in general purpose travel lanes. The Regional Plan includes the full implementation of the Regional Bike Plan and continuation of the Smart Growth Incentive Program in South County and throughout the region.</td>
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<td>48</td>
<td>Robert J. Kard</td>
<td>APCD</td>
<td>Greenhouse Gas Emissions As Governor Brown states in Executive Order B-30-15: &quot;[C]limate change poses an ever-growing threat to the well-being, public health, natural resources, economy, and the environment of California, including loss of snowpack, drought, sea level rise, more frequent and intense wildfires, heat waves, more severe smog, and harm to natural and working lands, and these effects are already being felt in the state.&quot; Moving into the future, these effects, and California’s increasingly stringent greenhouse gas emission targets, will require fundamental changes to our transportation system. The District supports SANDAG’s efforts to include all measures possible to minimize the greenhouse gas emissions of our region and mitigation measures to ameliorate their effects. Plan Page 24 - It is encouraging to see that the plan shows the region meeting the 2020 and 2035 targets for reducing greenhouse gas emissions from passenger vehicle use. However, it is impossible to assess this conclusion without more details. Specifically, the document should quantify how each strategy in the plan contributes to this GHG reduction. How much of the reductions in GHGs are due to low carbon fuels, more efficient vehicles, fewer miles traveled, more transit, walking, and bicycling, or other strategies? EIR Chapter 2 - The EIR states that no additional improvements related to Goods Movement beyond those identified in phases through 2050 are planned. The California Air Resources Board (CARB) will be adopting a statewide Sustainable Freight Initiative within the next 24 months that will aim to transform the goods movement sector into a zero or near zero emission system by 2050. It would be beneficial to align the objectives within SD Forward to the goals presented in the Sustainable Freight Initiative White Paper (April 2015). One example of a project that might need to be included in the Regional Plan includes electric charging infrastructure serving zero-emission trucks at the Ports of Entry and Port of San Diego.</td>
<td>Final Regional Plan Appendix C will present the estimated contributions of several strategies toward reducing per capita greenhouse gas (GHG) emissions from passenger vehicles to address the Senate Bill 375 (SB 375) targets. Consistent with California Air Resources Board SB 375 modeling protocols, the per capita GHG emissions reductions do not take credit for reductions due to low carbon fuels or more efficient vehicles. Thank you for bringing the California Air Resource Board’s (ARB) Sustainable Freight Strategy (SFS) to our attention as it relates to the Regional Plan. As you may know, the development of the SFS has been conducted in the input of a wide variety of freight stakeholders throughout the entire state including government agencies, environmental and health advocates and private industry, among others. As such, SANDAG has been directly involved in this process and has reviewed and provided feedback to the April 2015 Sustainable Freight Pathways to Zero and Near-Zero Emissions Discussion Draft document referred to in the comment.</td>
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<td>204</td>
<td>Myra Hermann</td>
<td>City of San Diego</td>
<td>To further emphasize the importance of transit, the City suggests that SANDAG modify the first of the “five strategies” bullet points on page 26 to state that the region’s housing and job growth should be directed to urbanized areas that are connected to the regional transit system, rather than to “existing and planned transportation infrastructure.” This reiterates the smart growth vision in the 2004 Regional Comprehensive Plan which called for new growth and development to occur in urbanized areas, near existing public facilities and transportation infrastructure, referenced on page 29, San Diego Forward.</td>
<td>The existing language for the first strategy found in draft Chapter 21 (“Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure”) reflects the multi-modal nature of the transportation network and is necessary to acknowledge that biking and walking, as well as carpooling/vanpooling, in addition to public transit, are also critical forms of transportation that help serve our most urbanized areas. To emphasize the connection between the more compact development forecasted in urbanized area with public transit, a specific reference to transit will be added to this strategy while maintaining the more global reference to the choices inherent to the revenue constrained network since one of the three goals in the Regional Plan is to create transportation choices. In many cases, the specific projects included in the Plan are aimed at accommodating multiple alternatives. For example, a new Trolley line would include the development of “mobility hubs” that enable a wide range of options for accessing station sites such as bike lockers, carshare and bike share services, and shuttle services. Managed Lanes facilities provide priority access for Rapid transit services and carpool/vanpooling, giving users a congestion-free bypass of congested main lanes. The Regional Plan contains a rich network of both new Trolley and Rapid lines, and creation of a network of ten-minute all day service on existing Trolley, Rapid, and local bus services in urban areas. Transit, therefore, will be a key element in meeting our future mobility needs along with other projects that will create a wide range of time-competitive and convenient alternatives to driving alone.</td>
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<td>205</td>
<td>Myra Hermann</td>
<td>City of San Diego</td>
<td>The City of San Diego supports the concept of Mobility Hubs and appreciates this discussion in the Regional Plan. Mobility hubs can help solve first mile last mile challenges and better serve the existing, built neighborhoods as well as new activity centers and will be critical to helping the City achieve its draft Climate Action Plan goals for reducing vehicle miles traveled. SANDAG should add language to reflect better connected land use and transportation planning that helps people drive fewer miles alone, or more specifically, “Reducing vehicle miles traveled” as a bullet point on page 95, under the section “Looking past 2035: possible pathways for additional greenhouse gas emissions reductions from transportation.” This premise is understated in the overall regional planning but is not outlined as a goal or strategy. The City of San Diego supports a regional strategy that reduces Vehicle Miles Traveled per capita to reduce climate emissions, as outlined in Figure 2.22 on page 96. SANDAG is developing a Regional Mobility Hub Implementation Strategy to identify transportation services, amenities, and urban design enhancements that can bridge the distance between transit and an individual’s origin or destination. Mobility Hub features can include carshare, bike share, neighborhood electric vehicles, scootershare, bike parking and support services, dynamic parking strategies, real-time traveler information, wayfinding, real-time ridesharing, and improved bicycle and pedestrian connectivity. The strategy will recommend improvements, conceptual designs, and implementation strategies for different communities served by high-frequency transit throughout the San Diego region. Updates to the narrative will be included in the section titled Looking Past 2035 - Possible Pathways for Additional Greenhouse Gas Emissions Reductions from Transportation in the final Chapter 2.</td>
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| 250 | Environment Health Coalition, City Heights CDC, MAAC, San Diego Housing Federation, BikeSD, Union Yes, Center on Policy Initiatives, San Diego 350, Sierra Club, Climate Action Campaign | We can only endorse San Diego Forward: The Regional Plan if there is a more significant movement toward transportation justice. We outline below what a significant movement towards transportation justice and pathway for greater GHG reductions would include in our description of the community supported alternative.

COMMUNITY SUPPORTED ALTERNATIVE:

- Out of the alternatives that were presented in the Draft Environmental Impact Report (DER) for the San Diego Forward Plan, we believe Alternative SD is by far the most reflective of transportation justice principles. The DER refers to this alternative as the 'environmentally superior alternative.' This alternative contains key elements that the community has consistently advocated for, including the following: - Implement 10-minute all-day frequencies for Urban Core local bus routes by 2025; - Complete all active transportation projects in the proposed Plan by 2025; - Increased frequencies for 44 transit routes where ridership was at or near capacity of the vehicles; and - Convert existing general purpose lanes to Managed Lanes to accommodate all-day frequencies for Urban Core local bus routes by 2025; - Complete all active transportation projects in the proposed Plan by 2021, prioritizing infrastructure in overburdened communities first (unconstrained network).

We support key elements noted in Alternative 5, with modifications to most accurately reflect the principles of transportation justice and provide an achievable framework. We are specifically asking for an alternative to be adopted that contains the following: Transit Efficiency & Affordability

- Implement 10-minute all-day frequencies for Urban Core local bus routes and expand bus service for early morning and late night commutes by 2025; - Increase frequency of transit on the 44 routes where ridership was at or near capacity of the vehicles; - If housing and transportation cost burden exceeds 45% of household income, adults will be eligible for transit access assistance through subsidized or free transit passes depending upon need; - No cost transit passes for the youth at families of below or at or below the regional median income level; Prioritization of Transit Projects in Overburdened Communities - Complete all (constrained and unconstrained) public transit capital projects and public transit operations improvements first by 2025 that are located within the most overburdened communities in our region. Much of where overburdened communities are located overlaps with the boundaries for infrastructure priorities as identified in the Urban Area Transit Strategy report. For example, the type of transit projects in these prioritized communities we would like to see completed by 2025 include the following: SR 15 to SR 94 (Centerline Rapid 235) Transit-Only Connector (Phasing 2035); 54th Street BRT (Phasing 2035); Purple Line Trolley (Phasing 2035); Orange Line Frequency Enhancements Grade Separation (Phasing 2035); Blue Line Frequency Enhancements Grade Separation (Phasing 2050); and Double Tracking of Blue Line and Orange Line (unconstrained network). Safe Streets for All

- Complete all retrofits for safe routes to new and existing transit, prioritizing infrastructure in overburdened communities by 2025 (retrofits for safe routes to existing transit only in unconstrained network). - Complete all Active Transportation Retrofits for Bicycle/Pedestrian Improvements at Freeway Interchanges by 2025, prioritizing overburdened communities first (unconstrained network); - Expand and implement safe routes to school with emphasis on increasing walk and bike mode share to school to 10% by 2021, prioritizing infrastructure in overburdened communities first.

Federal law requires SANDAG to prepare a Regional Transportation Plan that could be implemented with reasonably expected revenues. The Regional Plan provides mobility options for all the region’s residents within the reality of financial constraints. The strategies suggested in the comment are either already included in Alternative SD, or represent variations in the location or timing of the transportation network improvements already included in Alternative SD. The Draft EIR outlines a number of factors, including funding constraints that affect the feasibility of Alternative SD. The Board of Directors will consider the comparative merits of the alternatives in the EIR when they consider adoption of the final Plan.

Regarding the State Route 94 project, based on input from the community, Caltrans will evaluate the additional alternatives noted above as part of the environmental analysis for the SR 94 Express Lanes project. In the meantime, SANDAG and Caltrans are pursuing the implementation of an interim Bus on Shoulder Project along both I-805 and SR 94 to coincide with the opening of the South Bay Rapid in late 2017/early 2018.

SANDAG will work with the City of San Diego and Caltrans on the inclusion of any future interim improvements on the SR 56 corridor. Should funding become available for the whole corridor, SANDAG will seek to advance this project in future plans.

Letter
Updated Public Comments and Responses on the Draft Regional Plan

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| 258 | Monique Lopez | Environment Coalition       | G. Analysis of Disproportionate Exposure to Traffic Pollutants - The analysis estimates the per person exposure to PM10 within 500 feet of freeway links. It is not clearly explained how this metric is derived. It is not a standard measure of population exposure to pollutants. EHC offers two lines of thought on alternative measures that provide more valid indicators of social equity in exposure to traffic pollutants.  
1. Percentage of minority populations living within 500 feet of a freeway. Based on analysis of 2010 census block population, minorities comprise 52% of the county’s population, but are 57% of the population in census blocks within 500 feet of a freeway. Clearly, minority populations are exposed to higher levels of freeway traffic pollutants than are non-Hispanic whites. 
2. Exposure of disadvantaged communities to traffic density and/or diesel particulate matter, as calculated by OEHHA for CalEnviroScreen. Given that the proposed plan will continue to incentivize travel by car, it will result in increased traffic on surface streets as well as on freeways. Thus, a measure of exposure to total traffic density is an appropriate indicator of the plan’s disproportionate impact on disadvantaged communities. An example of this indicator is provided below. Two definitions of disadvantaged communities are used in this example: SANDAG LIM census tracts, and CalEnviroScreen top 25% census tracts. The baseline to which these communities are compared is the score for the combined cities of the region: It is clear that, using two different definitions of disadvantaged communities, these areas rank higher than average metropolitan areas of the region on measures of traffic density and estimated exposure to diesel particulate matter. We suggest that a similar analysis should be done for future years. |
| 409 | Ted Anais  | San Diego County Regional Airport | Appendix A, Pages 4, 11, 12, 22, 30, 34, 47 Footnotes to Airport Express Routes should be revised to read: “Capital cost may be funded by aviation and other private funds.” |

Response: In the Draft Plan, SANDAG developed a methodology to analyze particulate matter exposure based on recommendations from the California Air Resources Board Land Use Handbook, school siting requirements, and OEHHA studies. The Draft EIR, Section 4.3.2.3 and Appendix C explains the 500 feet exposure methodology. In addition, the particulate impact analyses included in the Draft EIR (Impacts AQ-2) estimates populations exposed to new or worse particulate standard violations. The toxic air contaminant (TAC) impact analysis in the Draft EIR estimates population exposure to certain cancer risk levels. The methods and definitions used are explained in Appendix H. The methodology as explained in Appendix H was to analyze the relative exposure using a 500 foot buffer. The modeled results are in the Appendix. There was no disparate impact or disproportionate burden for minority populations in the Title VI analysis.

Letter: We will revise the footnotes on the tables located in these pages to indicate that implementation of these services is dependent upon funding from aviation and other private sources.
Updated Public Comments and Responses on the Draft Regional Plan

No. | Name | Agency | Comment | Response | Source
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429 | SCTCA | | When looking at the document as a whole tribes are indeed included, however, we are still separate from the main document. The tribal information is found in an addendum, which is fine, but that information is not translated into the actual Plan. Someone reading the Plan will not see how the tribes are an actual participant within the region. We would like to see the tribes discussed, not as a side note but in each chapter of the Plan because we affect, and are affected by the San Diego Region’s ambitions and growth. For example our tribal businesses have quite an impact on the larger San Diego economy but that is not mentioned in the Plan. Our casinos bring employment, goods, and tourist dollars to the region. The tribal financial and social investments that benefit the region are not clearly documented in the Plan. The tribes have also made investments in road mitigation on highways such as CA 76 and regional arterials which positively impact the county. We believe this acknowledgement can go a long way in helping people see the value in our contributions and therefore increase the priority in some of our road projects. One way the tribes could be better represented in the Plan is in the mapping. Tribes would like to be acknowledged on every map that includes boundaries/borders. As individual sovereign nations, our borders and land bases should be made apparent. Any map that contains the border with Mexico or neighboring counties should contain tribal borders as well. When people look at the Plan they need to see that tribes are not only a part of the region but have distinct land bases with unique land use authority mirroring Mexico and as such have special tax authority used daily through the movement of goods and services.

Another way to better represent the tribes outside of the main Plan is in the EIR. When looking at the EIR the tribes found huge gaps in tribal specific information. There is no acknowledgement of the cultural perspectives in conservation, no tribal information on their maps and the references they use are completely out of date. The tribes are very concerned about the lack of inclusion in the EIR because tribes are most in danger of being negatively impacted by development in the region. Our cultural resources are of the utmost importance to us but not acknowledged anywhere in the EIR. The issues with the EIR are too numerous to mention in this letter so we have included an itemized list of changes we would like to see made.

Thank you for bringing this to our attention. We will update maps in the Plan and Tribal Consultation Appendix to accurately reflect tribal areas consistent with how local jurisdictions have been represented. For the Plan document, tribal information from Appendix G was incorporated throughout the core chapters as relevant.\[Letter\]

431 | SCTCA | | During our review of the Regional Plan one of our cultural resource experts, Lisa Haws, spent many hours making some very specific and detailed suggestions for changes in the Plan and EIR. Her general observation was the same as indicated in the letter; that the tribal data was present but was, as she put it, ‘exiled to the appendices of the Plan.’ The following are specific recommendations for both the Plan and EIR to incorporate tribal issues directly in the documents.

**Recommended Changes**

To improve the Regional Plan and the EIR, it is recommended to review language approved in Appendix G, U and white papers and incorporate the statements consistently into appropriate areas of the Regional Plan and EIR (project description, project location, Indian reservations, tribal governments, borders, economic development, cultural resources, etc.).

For Example:

Add language from Appendix G, Page 4 to Regional Plan pages 2-3 and to EIR.

Tribal Nations in San Diego: Of the 109 federally recognized Indian tribes in California, 18 are located in San Diego County. The tribal members of today’s band represent four Indian cultural/linguistic groups who have populated this entire region for more than 10,000 years, taking advantage of its abundant natural resources and diverse ecological system for their livelihoods. The four nations are: the Luiseno, Cahuilla, Cupeno, Kumeyaay.

Add language from Appendix G, Page 5 to the Regional Plan page 12 and to EIR.

Tribal Perspective: The region is home to 18 Native American reservations representing 18 tribal governments, the most in any county in the United States. Reservations have generally been established by Executive Order, and most of the land within the boundaries of reservations is owned by tribes and held in

Staff incorporated tribal references from Appendix G into the body of San Diego Forward, including Chapters 1, 2, 3, 4, and 5. We will edit the final Chapter 1 to include text on page 12.
## Updated Public Comments and Responses on the Draft Regional Plan

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<td>trust by the federal government. Native American reservations currently cover more than 115,000 acres, or approximately 4 percent of the region's land. Four tribal groupings make up the indigenous peoples of San Diego County: the Kumeyaay/Diegueno, the Lusiseno, the Cuperno, and the Cahilla. Add language on Tribal Economic Development: Appendix G, Page 7: Tribal Economic Development: 10,000 jobs, a $1 billion industry, $263 million in goods and services, and $500 million in payroll... Those tribes who do not have gaming facilities continue to have economic development, transportation, and infrastructure needs which have not been met. And Appendix U.14, Page 11: Tribal government perspective - jobs/housing: Barona, Campo, Sycuan, Viejas - I8 corridor (6000 employees) / Pala, Pauma, Rincon, San Pasqual - SR 76 (5,000 employees). Each gaming facility 6-12,000 guests. $263 million in goods and services.</td>
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<td>Add language on Tribal Environmental: Appendix G, Page 10: Tribal Environmental Context: environmental conservation is important to tribal nations, but tribal lands are only a fraction of the acreage originally agreed to in the treaty negotiations in the 1800s and are now surrounded by land controlled by federal, state, or private parties. As efforts increase to preserve habitat throughout the region, pressures for tribal lands to be considered open space or endangered species habitat has risen. Appendix G, Page 10: ...as reservations are a fraction of traditional native territories, there are many important natural areas with cultural significance located outside the reservation in areas where tribes have limited influence or control. Develop language on Tribal Cultural Resources: Develop definition of “Cultural Resources,” which may be all the aspects of the physical and supra-physical environment that human beings and their societies value for reasons having to do with culture. Included are culturally valued sites, buildings, and other places, plants and animals, landscapes, atmospheric phenomena, sounds and sounds, artifacts and other objects, documents, traditions, arts, crafts, ways of life, means of expression, and systems of belief. (Source: Tom King) Page 21: Appendix G: Cultural Resources: As many California tribes were moved away from their traditional lands or had their land base restricted in size, it is often the case that lands of cultural significance to the tribes do not exist within the boundaries of the reservations. This can cause conflicts between tribes and developers and/or land use authorities that propose development on land that the tribe does not control, but has cultural or religious significance to it. Page 8: Cultural resources have been destroyed with early transportation projects, which makes the few remaining even more precious. State and federal government “steam-rolling” tribes in the process of construction. Page 12: Cultural resources have been destroyed with early transportation projects, which makes the few remaining even more precious. State and federal government “steam-rolling” tribes in the process of construction. Page 12: Tribal Elder Phoenix: Kumeyaay lands stretch to the ocean. Requests jurisdictions let the tribe know when major construction projects are happening, so the resources can be gathered. This will result in a better understanding: • Cultural Resources are impacted by Climate Change: Oaks, acorn, willows, tule, and sea level rise. Figure 2.20 (Chapter 2) should include a bubble for Cultural Resources. • Cultural Resources include components of archeology, biology and habitat conservation. TransNet funded projects should also include an evaluation of cultural resources on lands acquired, cooperative land</td>
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### Updated Public Comments and Responses on the Draft Regional Plan

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<td>448</td>
<td>Mike Bullock &amp; Debbie Hecht</td>
<td>Sierra Club San Diego</td>
<td>Above all else, SANDAG must adopt an RTP that will ensure that SANDAG does its part to stabilize the climate at a livable level. This means exceeding the reductions specified in the Governor’s Executive Order S-3-05 (“S-3-05”). The money allocated to freeway expansion, including Managed Lanes should be reallocated to build and operate transit.</td>
<td>Thank you for reviewing the Draft Regional Plan and providing comments on the documents. The Draft Regional Plan describes efforts in the region to both reduce GHG emissions and prepare for the impacts of climate change. The threats from climate change are described on pages 89 and 90 in draft Chapter 2, as well as in the Climate Change Mitigation and Adaptation White Paper, included in Appendix Q. SANDAG recognizes that substantial reductions in global, state, and regional GHG emissions are an urgent priority, and strives in its regional plans and programs to do its part in reducing GHG emissions from all sources. SANDAG’s Climate Action Strategy documents many of the region’s ambitious programs to reduce GHG emissions. However, as the Draft EIR notes (p. 4.8-33), there is no current legal or planning requirement that the SANDAG region’s emissions be reduced by the same percentage (“equal share”) as the statewide percentage in order for the State to achieve the Executive Orders’ goals.</td>
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The Southwest Wetlands Interpretive Association (SWIA) has reviewed the Regional Plan (proposed plan) and Draft EIR (DER) and provides comments on both documents. SWIA is a non-profit environmental organization that has, for nearly 40 years, worked to conserve and enhance coastal wetlands of the Tijuana River Valley/Estuary and elsewhere in southern California. Climate change effects, which result largely from rapidly increasing human-derived greenhouse gas (GHG) emissions, pose a great threat to those conservation and enhancement investments (over $30 million to date). Among those threats are sea level rise, increased temperatures and decreased and/or altered precipitation - all of which will negatively impact the region’s habitats, species and human health and welfare. | Thank you for reviewing the Draft Regional Plan and EIR and providing comments on the documents. The Draft Regional Plan describes efforts in the region to both reduce GHG emissions and prepare for the impacts of climate change. The threats from climate change are described on pages 89 and 90 in draft Chapter 2, as well as in the Climate Change Mitigation and Adaptation White Paper, included in Appendix Q. SANDAG works closely with partners in the region to assess climate vulnerabilities and implement strategies to improve resiliency and preparedness in the face of climate change. | Letter |
The DEIR documents that many significant and unavoidable impacts will remain if the proposed plan is implemented (just to cite some of these: GHG emissions related to long-term state goals, VMT, water supply, and sensitive habitats/species/movement). The proposed plan, which is essentially a minor update of the 2011 RTP/SCS, does not meet the project's objectives for a combined RTP/SCS and RCP.

Based on these deficiencies, and others we cite in our comments, we respectfully request that SANDAG not approve the proposed plan nor certify the DEIR. A new proposed plan that incorporates our comments and recommendations and those of other entities referenced in our comments should be prepared and submitted for public review and recirculated for CEOA review.

The only mandated greenhouse gas (GHG) emission targets applicable to SANDAG are the SB 375 per capita GHG emissions reduction targets for passenger vehicles. The Proposed Plan exceeds these targets. The Draft EIR demonstrates that the proposed Plan would not conflict with the State's ability to achieve the AB 32 target of reducing statewide GHG emissions to the 1990 levels by 2020. Although the Draft EIR compared the proposed Plan's GHG reductions to a 2030 regional reference point based on Governor Brown's Executive Order B-30-15 and a 2050 regional reference point based on Executive Order 5-3-05, there is no mandate for the proposed Plan to "comply" with these Executive Order state GHG reduction goals, nor does the SANDAG Climate Action Strategy "adopt" the 2050 Executive Order goal as stated in the comment.

While there is a relationship between VMT and CO2 emissions, it is not a one to one relationship. Regional

The San Diego region’s GHG emissions are about 3.5% - a substantial fraction - of the state’s total GHG emissions. It is crucial that the proposed plan (Regional Plan) identify measures that will reduce GHG emissions for both the near-term (i.e., 2020 and 2035) and long-term (i.e., 2050 and beyond). SANDAG’s own Climate Action Strategy [approved in 2010] states that this region must do its part to reduce GHGs that contribute to climate change. The strategy references and adopts the Governor’s Executive Order 5-3-2005 and its goal to reduce the state’s GHG emissions by 80% below 1990 levels by 2050 and by 2030 the region must have met and gone below the 1990 level and be well on its way to doing its share for achieving the 2050 state GHG emission reductions – which will require fundamental changes in policy, technology, and behavior (emphasis added). Moreover, the proposed plan’s approach neither commits the region to reduce its GHG emissions in proportion to its contributions to statewide GHG emissions to meet the AB 32 GHG target (see DEIR discussion of GHG-2) nor does it put the region on a trajectory to meet the state’s GHG emission reduction targets for 2030 and 2050. This is a major failure of the proposed plan.

The current document recognizes reducing GHG emissions and meeting SB 375 targets. As will be described in the Chapter 2 comments, this document uses different calculation methods for VMT and GHG emissions that included allowances for making decisions about policies and actions that will reduce GHGs attributed, for example, to aligning fuel costs with Department of Energy fuel forecasts, fewer rural residents, and more compact land use patterns in the Regional Plan’s SCS. Draft EIR Appendix G-3 presents the technical methodology used to estimate GHG emissions reductions to achieve the SB 375 targets for passenger vehicles. The 2050 baseline for SB 375 GHG reductions is the same for the proposed plan and the prior plan. AB 8 has established the SANDAG region’s baseline as 260 pounds per person per day.

The DEIR documents that many significant and unavoidable impacts will remain if the proposed plan is implemented (just to cite some of these: GHG emissions related to long-term state goals, VMT, water supply, and sensitive habitats/species/movement). The proposed plan, which is essentially a minor update of the 2011 RTP/SCS, does not meet the project’s objectives for a combined RTP/SCS and RCP.

Based on these deficiencies, and others we cite in our comments, we respectfully request that SANDAG not approve the proposed plan nor certify the DEIR. A new proposed plan that incorporates our comments and recommendations and those of other entities referenced in our comments should be prepared and submitted for public review and recirculated for CEOA review.
Chapter 1, Pages 11-12. The six policy objective categories address the regional transportation plan and sustainable communities strategy as well as regional comprehensive planning concerns (e.g., “create great places for everyone to live, work and play.”) These plan objectives differ from what is summarized as the plan’s objectives in Section 2 of Project Description) and Section 6 of the document. Many of these local governments should more clearly identify its objectives in relationship to the requirements of SB 375 and the RCP. The policy objective ‘Environmental Stewardship’ should include language to “Promote and implement actions that complement local government and business efforts to mitigate and adapt to climate change effects” and “Promote and implement actions that reduce the region’s water demand and improve water reuse.” The latter issue is very important because the San Diego region, as well as the rest of the state, is facing projected, long-term water supply deficiencies – and providing guidance for reducing the San Diego region’s water consumption should be a critical aspect of this plan.

Chapter 1, Pages 13-14. As noted in the proposed plan, SANDAG is uniquely situated to bring together decision-makers from all over the region, including political entities and the county. Many of these local governments have prepared Climate Action Plans (approved or in draft status) that the San Diego Forward plan must help implement. Because the sector responsible for the largest greenhouse gas (GHG) emissions is transportation (44% of the region’s GHG emissions), it is essential for SANDAG’s RTP/SCS to present a “roadmap,” that will significantly reduce GHG emissions, by transportation and complement the local governments’ land use and climate change goals and plans. Importantly, a number of those local plans call for greater reductions in GHG emissions. Reductions from this proposed plan would provide (i.e., the city of San Diego’s draft climate action plan calls for about 49% for a 1990 GHG baseline by 2035 and by 80% from the 1990 GHG baseline by 2050). To put that on a realistic trajectory to align with the state’s – and some local cities’ – GHG reduction goals, this plan should identify and help commit the region to achieve a reduction in GHG emissions to 2030 by 40% below the baseline and about 39% below the baseline in 2035 – which are substantially greater reductions than what this proposed plan would yield. That appears to be inconsistent with at least some of the member agencies approved or in-review (e.g., draft city of San Diego) climate action plan goals and would negatively impact that implementation.

Chapter 2, Page 23. The first paragraph should provide the more relevant percentage of vehicle (transportation)-derived GHG emissions for the San Diego Region (i.e., 44%), not just reference the national percentage.

Chapter 2, Page 24. This section should include and clarify the relevance of other state of CA GHG reduction goals, including Governor’s Executive Order 5-03-05 and recent commitments that the state/government have made that establish a reduction target of 80% below the baseline by 2050 as well as the recent Order B-30-15 that sets an interim GHG reduction target of 40% from the baseline for 2020. Although this RTP/SCS has a primary directive to meet GHG emission requirements per SB 375, SANDAG’s own Climate Action Strategy directs it to have the region do its part to achieve the state’s higher reduction targets. The draft Regional Plan’s calculated GHG reduction levels are substantially greater than the previous draft RTP/SCS plan, which is encouraging, but some (much?) of the additional reduction appears to be caused by a changed calculation methodology – not an actual reduction caused by new measures in the proposed plan as compared to the previous plan. Is the VMT-based GHG calculation methodology in the proposed plan a fully comparable basis for comparison with the SB 375 VMT/GHG methodology that established the San Diego region’s 2005 baseline and 2020 and 2035 reduction requirements? The proposed plan states it substantially improves the region’s VMT-based GHG emission reductions by 18 and 24%, respectively, for 2020 and 2035 vs. 14% and 13%, respectively, in the previous document. However, based on information presented elsewhere in this draft plan and in the Draft EIR, it appears that a significant portion of the proposed plan’s “additional” GHG emission reductions are an artifact of changed GHG calculation methods and assumptions. [See Draft EIR Appendix D, Section 3.3: “The ICLEI U.S. Letter to SANDAG, 2013].

Chapter 2, Page 24. This section should include and clarify the relevance of other state of CA GHG reduction goals, including Governor’s Executive Order 5-03-05 and recent commitments that the state/government have made that establish a reduction target of 80% below the baseline by 2050 as well as the recent Order B-30-15 that sets an interim GHG reduction target of 40% from the baseline for 2020. Although this RTP/SCS has a primary directive to meet GHG emission requirements per SB 375, SANDAG’s own Climate Action Strategy directs it to have the region do its part to achieve the state’s higher reduction targets. The draft Regional Plan’s calculated GHG reduction levels are substantially greater than the previous draft RTP/SCS plan, which is encouraging, but some (much?) of the additional reduction appears to be caused by a changed calculation methodology – not an actual reduction caused by new measures in the proposed plan as compared to the previous plan. Is the VMT-based GHG calculation methodology in the proposed plan a fully comparable basis for comparison with the SB 375 VMT/GHG methodology that established the San Diego region’s 2005 baseline and 2020 and 2035 reduction requirements? The proposed plan states it substantially improves the region’s VMT-based GHG emission reductions by 18 and 24%, respectively, for 2020 and 2035 vs. 14% and 13%, respectively, in the previous document. However, based on information presented elsewhere in this draft plan and in the Draft EIR, it appears that a significant portion of the proposed plan’s “additional” GHG emission reductions are an artifact of changed GHG calculation methods and assumptions. [See Draft EIR Appendix D, Section 3.3: “The ICLEI U.S. Letter to SANDAG, 2013].

The policy objectives in Chapter 1 were approved by the SANDAG Board of Directors before the release of the Draft Regional Plan as a way to guide the planning process. The first bullet point under Environmental Sustainability is intentionally broad enough to be inclusive of a variety of environmental issues. SANDAG does not have authority over water issues, and as such, relies on cooperation and collaboration with the San Diego County Water Authority. A section on the Importance of Water will be added to Chapter 1 to emphasize the importance of water and clarify the respective roles of SANDAG and the CWA, and a continuing action will be added to Chapter 5 emphasizing the need to continue to collaborate on water forecasting. In addition, a section describing the collaboration between SANDAG and the CWA will be added to Appendix J, the Regional Growth Forecast.

As described in Chapter 2, SANDAG works closely with local governments to support development and implementation of local climate action plans through the Energy Roadmap Program. The Regional Plan helps to implement local climate action plans by achieving SB 375-requited per capita GHG reductions from passenger cars and light-duty trucks. The Regional Plan meets and exceeds these targets for 2020 and 2035. A discussion regarding GHG reductions beyond 2035 begins on page 95 and references the efforts to date to evaluate strategies to meet the statewide climate goals (Appendix U.12 also provides additional information). Appendix C of the Plan includes the technical methodology to estimate SB 375 VMT and GHG emissions submitted to the Air Resources Board. SB 375 requirements for per capita CO2 reductions apply only to passenger vehicles and light-duty trucks, while the per capita VMT analysis included in Draft EIR Section 4.15 includes all vehicle classes. In both analyses, per capita VMT declines from either a 2005 or 2012 baseline to 2050. The proposed Plan meets and exceeds the SB 375 targets assigned to SANDAG. While there is a relationship between CO2 and VMT, it is not one-to-one. Other factors, such as congestion and speed effect vehicle fuel economy and impact CO2 emissions. The methods and data used for the 2012 GHG Inventory and Projections for the San Diego Region are described in both Appendix D of the Regional Plan and Appendix G of the EIR. As described in the methodology document, on-road transportation emissions for 2012 and forecasted emissions were calculated based on VMT output from SANDAG’s model as well as EMFAC2014, which does not account for the O-D VMT breakdown. This methodology is consistent with previous regional GHG inventory calculations.
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<td>477</td>
<td>cont. Bill Tippets</td>
<td>Southwest Wetlands Interpretive Association</td>
<td>The proposed plan’s transportation impacts on GHGs needs to be better explained. For instance, the GHG discussions in Section 4.8 and related appendices of the draft EIR raise serious concerns regarding VMT and GHG emission reductions. The discussion includes statement that the plan will not reduce regional VMT to or below the 2012 baseline and is projected only onto reduce per capita VMT in 2020, 2035 and 2050 by about 2%, 6% and 7% respectively, compared to 2012. This implies that the proposed plan does not reduce per capita VMT sufficiently (affecting concurrent GHG emissions) as a means to meet SB 375 which specifies passenger vehicle per capita VMT-based GHG emission reductions of 7% by 2020 and 13% by 2035 compared to the 2005 GHG baseline. Note the use of the 2012 baseline in the DEIR is confusing in part because SB 375 uses a 2005 baseline for the per capita VMT-GHG emission reduction comparison. Although per capita VMT and per capita GHG emissions (calculated based on VMT for passenger and light truck vehicle VMT) are not exactly comparable, it is not clear how these relatively low per capita VMT reductions translate to the large per capita GHG reductions in the proposed plan. While SB 375 does not extend to 2050 and as new low-carbon consuming vehicles enter the market, the relationship between VMT and GHG will change, this plan clearly shows it will fail to reduce per capita VMT. Additionally, the proposed plan is only expected to reduce average travel time by one minute in 2050 compared to 2012 and work commute times would be no different between 2012 and 2050. Those findings do not support the plan’s assertion that it would create an effective roadmap for the region’s future in terms of a more robust and efficient transportation network. The state of California’s Department of Transportation has given a clear signal to all transportation agencies to refrain from building new road capacity in its draft California Transportation Plan (CTP) 2040, which includes a key recommendation in the draft to “alleviate funding projects that add road capacity and increased maintenance costs,” a perfect example of that balance. The CTP provides guidance consistent with state transportation and climate change goals while supporting city, county, regional and state leaders’ authority to shape the build-out of the multimodal system. Decision-makers at state, regional, county and city levels would retain the freedom and flexibility to develop plans, select the highest performing projects, and enact policy, procedures and funding programs within state policy parameters — and in specific projects may increase road capacity. However, the CTP provides clear guidance that roadway expansion projects are not the preferred options in most situations. It is not clear in the document how much of the new GHG emission reductions are attributable the revised GHG calculation methods and the local jurisdictions’ independent land use development decisions, and how much is attributable to the policies, actions and incentives that this plan calls for. Also, as noted below, there appear to be more effective transit system approaches and priorities that could more closely align the region’s transportation sector with those state targets. The draft California Transportation Plan (CTP) provides a long-range policy framework to meet our future mobility needs and reduce greenhouse gas emissions. The draft CTP defines goals, performance-based policies, and strategies to achieve our collective vision for California’s future statewide, integrated, multimodal transportation system. The draft plan envisions a sustainable system that improves mobility and enhances our quality of life. The draft plan addresses many of the concerns you raise and is intended as policy guidance for the State of California. Additional details are available at <a href="http://www.dot.ca.gov/hq/tpas/californi">http://www.dot.ca.gov/hq/tpas/californi</a> atransportationplan2040/ SANDAG staff continues to participate in the Caltrans CTP 2040 development.</td>
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<td>478</td>
<td>Bill Tippets</td>
<td>Southwest Wetlands Interpretive Association</td>
<td>Chapter 2, Page 26, The five building blocks and strategies that form the basis of the SCS would, if appropriately implemented, address the expectations of SB 375. The plan is not clear what aspects of “land use patterns” changes SANDAG’s SCS will cause or substantially influence. The plan notes that local governments have (nearly all) the land use authority, and the plan cannot dictate land use. However, this SCS each time that SANDAG embarks on preparing a regional plan, SANDAG and the local jurisdictions incorporate the most recent land use assumptions into the Regional Growth Forecast. These land use assumptions are based on changing local land use plans. The region has seen shifts in projected land use patterns between the 1999 forecast and the Series 13 Regional Growth Forecast, moving from a forecast Letter</td>
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<tbody>
<tr>
<td>SWA</td>
<td>Bill Tippets</td>
<td>Southwest Association</td>
<td>must also be able to demonstrate how its land use and transportation system components will reduce vehicular VMT and passenger vehicle-derived GHG emissions. If the extant local governments' land use plans are already capable of achieving most of those reductions (having adopted smart growth/denser building, what will the RTP/SCS do to further those reductions, and what transportation network improvements best support and incentivize improvements on those plans? This plan is also an RCP, so many other strategies should be included to address the RCP expectations and that are not already addressed by the RTP/SCS process. This document does not provide a clear sense of how the two processes (RTP and RCP) integrate policies, projects, implementation, etc. Chapter 2, Page 27. The transportation network assessed by the Regional Plan must include a “revenue constrained” alternative and the financing plan must demonstrate how it can fund the network. However, the apparent presumption is that previous decisions by SANDAG boards, which have prioritized freeways and roads over transit/walking/biking, have already established an unchangeable revenue constraint-based network. The SANDAG board can alter previous funding decisions and shift funding such that transit/walking/biking projects receive funding priorities that are not previously planned. Furthermore, transportation funding is more fungible than this document suggests, as documented in a recent report prepared by Circulate San Diego (<a href="http://www.circulatesd.org">www.circulatesd.org</a>) “TransNet” that concludes TransNet and SANDAG’s other funding sources are flexible and can be implemented to advance transit and active transportation projects. These are crucial points that must be discussed and treated more transparently because improper assumptions about funding (and as discussed later in these comments, modeling assumptions) can obfuscate or incorrectly dismiss opportunities for changing key elements of this plan. Chapter 4, Section 5. SANDAG’s other goals are also emphasized that the transportation network can respond to these land use changes and can have a greater variety of transportation choices, including more transit and active transportation. That plan, more than any previous SANDAG regional plan, includes more transit services, more active transportation investments, and for the first time, the concept of mobility hubs and emerging technologies to help address the first mile/last mile gap. This plan also includes incentives and policies for smart growth and active transportation, as well as incentives and policies that protect, acquire, manage, monitor, and maintain the region’s open space and habitat. The regional growth forecast is a tool that helps the region plan ahead to match transportation investments to projected land use patterns. However, local jurisdictions, not SANDAG, are responsible for making land use decisions and approving development projects. As those decisions are made, SANDAG incorporates them into the next forecast. Every four years, SANDAG updates its regional transportation plan. This cycle, the SANDAG Board of Directors made a decision to merge the Regional Comprehensive Plan, adopted in 2004, with the next Regional Transportation Plan and Sustainable Communities Strategy. At the beginning of the planning effort, a survey was conducted, focus groups were held, a kick-off workshop was conducted, and discussions with SANDAG working groups and Policy Advisory Committees were held to solicit ideas for inclusion in the plan. The results were presented to the SANDAG Board of Directors over a series of meetings, and ultimately, the Board adopted the vision, goals, and policy objectives to guide the planning process and the content to be included in the plan. In an effort to make the plan as accessible and understandable to as many residents as possible, staff attempted to shorten the length of the plan document in comparison to previous plans. While the plan is shorter, it includes more appetizing than previous plans, and much of the detailed and technical information is included in the multiple appendices. For example, information from the Borders chapter in the RTP/SCS (now included in the Borders Appendix) should be noted that not all components of the RCP are carried over into this plan (for example, parks, libraries, police, fire, and hospitals). However, new topics are included to reflect changing conditions and Board direction for example, emerging technologies and mobility hubs. At the direction of the Board to focus on regional priorities more directly under the purview of SANDAG. The prioritization of projects in the Draft Regional Plan is done every four years, with projects moving up or down in priority according to the Board-approved ranking criteria. Funding commitments are made for projects under construction. Funding is not as fungible as the comment suggests. State and federal requirements govern the use of these funds. And, a commitment to the voters to complete projects and programs they voted for guides the Board. SANDAG pursues all opportunities for funds, including Active Transportation Program funds. These programs are competitive and SANDAG does not control the outcome of grant applications. Chapter 5 (pages 140-142) explains how SANDAG implements the regional vision through incentives and collaboration. Providing funding to local land use authorities to update and implement their land use plans to reflect the regional vision and working collaboratively with member agencies and partners to address issues of regional significance collectively. In addition, Chapter 5 (pages 149-150) summarizes the Performance Monitoring Program used to monitor implementation of the plan. The intent of this exercise was to determine if additional land use changes could further reduce greenhouse gas reductions. The results showed that the region’s cities are moving in the right direction as a result of the land use decisions that have been made as our local jurisdictions continue to update their plans. These results also emphasized that the transportation network can respond to these land use changes and can have a much larger impact than the land use, on greenhouse gas reductions in the region. However, the</td>
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Chapter 2, Pages 47-57. The discussion of the various modal opportunities—based on the 2050 RTP/SCS transportation network—appears to have dismissed VMT reduction and other benefits from other transportation system opportunities [note: the draft EIR considered but rejected as infeasible a host of public requests to analyze these alternatives, in part claiming the project alternatives incorporated all of the key features of these alternatives]. Specifically, a revised integrated bus rapid transit proposal known as “Quickway” (www.quickwayproposal.wix.com/proposal) and a transit-first option known as the “50-10 Plan” (http://www.transitsandiego.org/50_10_transit_plan) that revises current SANDAG projects and funding to prioritize transit projects and set aside dedicated transit funding to examine the 2050 RTP/SCS network and project priorities do not. Advancing transit over roadways (freeway lanes, some arterials) is essential. Quickway may be a useful tool to help transition from bus rapid transit to rail transit as ridership and population changes warrant. These options should be described in the overall analysis of the transportation network and funding and priorities.

The Quickway approach would not require the proposed new managed lanes, can accommodate all transportation modes, utilizes already-tested-in-place transit system components, more closely focuses transit stations and lines with major user demand centers, and has primary capital and operating costs that are below those of the proposed plan/projects. This would allow SANDAG to eliminate or greatly scale-down new freeway and managed lanes (and funding), perhaps even arterials (consistent with the draft CTP). From a modeling perspective, the Regional Travel Model (RTM), is used to determine where people are, where they’re going, and how they will choose to get there. But, it is very complicated and incorporates an extensive level of these capital infrastructure elements, our experience with major capital projects suggests that the capital costs would exceed the revenue available. While the proposed Plan does make assumptions on the transit mode for each corridor served for costing and modeling purposes, an alternatives analysis would be done at the project development stage. This alternatives analysis would assess a range of transit modal options based on the specific land use and physical geography characteristics within each project corridor.

The provision of secure bike parking at transit stations is included in the draft San Diego Forward: The Regional Plan by way of the Regional Bike Parking Program and implementation of current planning efforts (e.g. Safe Routes to Transit and Mobility Hub Implementation Strategy). Currently, the SANDAG iCommute Program manages more than 800 bike lockers at more than 60 transit stations and Park & Ride lots. The Sabre Springs/Peñasquitos Transit Station features the first group bike parking facility of its kind in the San Diego region and is equipped with 20 lockable bike racks, a bike pump, and a repair workstation. SANDAG continues to work with Caltrans, MTS, NCTD, and local jurisdictions to ensure adequate and secure bike parking is available as a first and last mile travel solution.

The provision of electric bikes, and other similar personal electric vehicles will be considered as part of the concept development the regional Mobility Hubs Implementation Strategy.

Further, the SANDAG iCommute program conducts outreach to increase commuter and community awareness of, and participation in transportation demand management programs and campaigns, including the use of bicycle facilities, bicycle education and encouragement.

The Draft EIR for the Regional Plan analyzes a range of alternatives. All action alternatives advance 35 years of transit into the first 10 years of the plan (from 2015 to 2050, which is the horizon year of the plan), similar in concept to the 5010 Transit Plan. The 5010 Transit Plan also envisions delays in highway The 5010 Transit Plan also envisions delays in highway investments similar to those included in Draft EIR Alternatives 3, 4, and 5A through SD. The feasibility of these alternatives is affected by funding constraints, among other factors. The Board of Directors will consider the comparative merits of the alternatives in the EIR when they consider land use exploratory piece set the stage for the transportation network development which looked at a multiple options and phasing opportunities within the requirements to meet our regional emissions reductions targets under SB 375 and the Plan exceeds these targets under the preferred transportation network. 

Chapter 2, Pages 32-33. The document states “we paired up each hypothetical (land use) scenario with the transportation network from the 2050 RTP/SCS, and studied whether they would lower emissions beyond those projected with the land uses in the Regional Growth Forecast.” And the discussion states that “The three scenarios had the potential to continue to lower emissions in comparison to the forecast, but at a much slower pace – up to an additional 1 to 3 percent over the next 35 years. Scenarios B and C were projected to achieve the greatest reductions.” That approach raises two major concerns: (1) if the alternative scenarios are likely to only result in small differences compared to the proposed plan, this implies that the RTP/SCS’s effort has not proposed scenarios that reflect a reasonable range of feasible alternatives for analysis in the draft EIR. (2) Applies only one transportation system (i.e., the revenue constrained transportation network from the 2050 RTP/SCS) to the three land use scenarios seriously constrains the analysis of combined land use and transportation network interactions/synergies. Why should the proposed plan and alternatives rely on the application of only the previously-defined network (land priority of projects) from the 2050 RTP/SCS when other seemingly viable alternative transportation system approaches (see below) could have been applied to that analysis?

The Quickway proposal is a modification to the transit component of the proposed Plan. Both concepts accomplish the same goals of higher speed and frequent service on transit networks that include rail and bus rapid transit services. The key difference is that bus rapid transit services in the proposed plan use Managed lanes and arterial transit priority measures to achieve higher travel speeds and trip reliability, while the Quickway proposal uses an extensive level of dedicated quickways, tunnels, and grade separations. Given the extensive level of these capital infrastructure elements, our experience with major capital projects suggests that the capital costs would exceed the revenue available. While the proposed Plan does make assumptions on the transit mode for each corridor served for costing and modeling purposes, an alternatives analysis would be done at the project development stage. This alternatives analysis would assess a range of transit modal options based on the specific land use and physical geography characteristics within each project corridor.

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## Updated Public Comments and Responses on the Draft Regional Plan

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Agency</th>
<th>Comment</th>
<th>Response</th>
<th>Source</th>
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<tbody>
<tr>
<td>486</td>
<td>Bill Tippets</td>
<td>Southwest Wetlands Interpretive Association (SWA)</td>
<td>Chapter 2, Page 77. As part of the improved rail/Trolley system plan proposes to retrofit grade separations at 20 key crossings by 2050. The text should identify where those crossings are and when each is scheduled, and how the timing was determined. Apparently grade separations are not proposed for the Rapid (bus) projects? The Quickway referenced earlier identifies its grade separated crossings and where at-grade crossings and tunnels would be appropriate. And, the buildout could occur within 10-15 years, which advances transit compared to the proposed plan. In addition to rail/trolley grade separation, the proposed plan must provide guidance (as part of the transportation system network “blueprint”) regarding pedestrian and cyclist “safe routes to travel.” Increasing population densities (and pedestrian and cyclist travel) in smart growth areas will necessitate better measures to provide safe and efficient travel. The proposed plan should include guidelines that the subsequent projects would use to ensure greater safety. For example, in 2015, Los Angeles Times’ analysis of pedestrian accidents, injuries and deaths demonstrated that most incidents occur in a relatively small number of densely populated centers where safety infrastructure – and increased public awareness campaigns – have not been implemented. The proposed plan should provide a base outline of what types of safety features/improvements would make these centers safer.</td>
<td>Letter</td>
<td>Source</td>
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The grade separation projection are listed in Appendix M, Table M-12. No grade separations are needed for the Rapid bus system; the Rapid routes that utilize the Managed Lanes facilities are already grade separated from local streets and the arterial rapid routes operate in city street rights-of-way in travel-flow traffic in most areas, but do utilize dedicated lanes, queue jump lanes, and transit signal priority treatments to bypass congested street segments. Regarding Safe Routes to Transit types of safety features/improvements that might make transit station areas safer; these improvement types are included in Appendix U.19, the Active Transportation Implementation Strategy. Figure 2-22 on page 96 illustrates regional GHG emissions before and after reductions from state and federal vehicle efficiency policies. There are a few differences that account for the varying results obtained for the SB 375 targets when comparing SANDAG’s 2011 Regional Transportation Plan to the Draft Regional Plan. These differences include, for example, aligning fuel costs with Department of Energy fuel forecasts, fewer rural residents, and more compact land use patterns in the draft Regional Plan SCL. |
### Updated Public Comments and Responses on the Draft Regional Plan

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<tr>
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<td>487</td>
<td>Bill Tippets</td>
<td>Southwest Wetlands Interpretive Association (SWA)</td>
<td>Chapter 3, Pages 105 et seq. (financing). The Draft Plan documents that it will require new sources of funds to implement all of its identified actions/projects. More discussion is needed regarding how funding could be structured to allow for advancing transit projects (e.g., a combined Quickway/50-10 approach) in contrast to the current schedule, which commits to construct a number of freeway and managed roadway projects that could be deferred or deleted when a comprehensive transit approach is prioritized over roadways. As noted in SANDAG's adopted Climate Action Strategy, the region needs to make fundamental changes in policy, technology, and behavior to meet the challenges of successfully addressing climate change and promoting its quality of life. Because a &quot;Quality of Life&quot; initiative or similar local financing will be needed to support our future transportation system network, the final network must reflect the most probable needs and opportunities in the region to increase the likelihood of a public vote to approve it. If the new funding is used to prioritize transit-first projects, then past funding decisions will need to be revised to allow some of those funds to be redirected from freeway/roadways. As noted previously in these comments, there is much more flexibility in how the various funding sources (including TransNet) can be utilized (see previous reference to a report by Circulate San Diego, &quot;TransNet Today&quot;). That is not to imply that no funds should be applied to new freeways and roadways, particularly needed maintenance, rather that the allocation of funds should be directed to the most effective/efficient projects and transportation modes. A key goal of the Draft Regional Plan is to increase use of alternative modes, including transit, walking, bicycling, and ridesharing. About half of the Draft Plan's expenditures are devoted to new and expanded public transit. This is true for the life of the proposed Plan, and individual phases (2014-2020, 2021-2035, 2036-2050). These numbers do not include expenditures for the draft Plan's managed lane investments, which make up the vast majority of highway expenditures. The Managed Lanes are designed as multi-modal facilities that provide priority access to transit (rapid services) and ridesharing (carpools and vanpools). These facilities will be managed to ensure free-flow travel for transit and ridesharing, providing a significant travel time savings over the congested main lanes and making these alternative modes a more attractive travel choice. We agree that new funding sources are needed to supplement existing sources in order to complete all projects proposed in the Draft Regional Plan. As you mention, any proposal subject to voter approval will need to appropriately reflect and address transportation needs to increase the likelihood of the public to approve it. As explained in Chapter 3, the majority of the funding sources are tied to certain types of projects (e.g., transit infrastructure or highway operations/maintenance) which means SANDAG does not have the broad authority to interchange them. Funding sources come with specific provisions from Congress or the state legislature. In addition, the TransNet Ordinance, as a program, assumes that a 50 percent match of state and federal sources is needed to complete all the capital projects in the ordinance. Shifting the state and federal funds that are currently used to match the TransNet funds would create a financial gap and potentially lead to some TransNet projects being completed beyond the time 2048 horizon of the Ordinance.</td>
<td>Letter</td>
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| 488 | Bill Tippets    | Southwest Wetlands Interpretive Association (SWA)                      | Chapter 4, Page 12B. This section of the proposed plan's description states that the San Diego (and Tijuana) region imports up to 90% of its energy and 80% of its water each year. The proposed plan, a combined RTP and RCP, should provide guidelines and propose incentives and implementation measures to substantially reduce this region's energy and water demand. Our region must increase its energy efficiency in addition to increasing our internal energy supply. Non-transformation energy supply and demand concerns are not specifically required RTP/SCS issues, but these issues should be included in the "RCP guidance" component of the proposed plan. The plan should address and identify means to promote Community Choice Aggregation (CCA) and increased distributed generation. CCA allows cities and counties to aggregate the buying power of individual customers within a defined jurisdiction in order to secure alternative energy supply contracts on a community-wide basis, but allowing consumers not wishing to participate to opt out. Several large metropolitan/urban regions of the state already have approved CCAs. The plan should also address and identify means to provide incentives that promote building efficiencies. | Your comment regarding including energy in the "RCP guidance" component of the proposed plan refers to the plan's five building blocks and five strategies to move us toward sustainability shown on page 26 of Chapter 3, Pages 105 et seq. (financing). The Draft Plan documents that it will require new sources of funds to implement all of its identified actions/projects. More discussion is needed regarding how funding could be structured to allow for advancing transit projects (e.g., a combined Quickway/50-10 approach) in contrast to the current schedule, which commits to construct a number of freeway and managed roadway projects that could be deferred or deleted when a comprehensive transit approach is prioritized over roadways. As noted in SANDAG's adopted Climate Action Strategy, the region needs to make fundamental changes in policy, technology, and behavior to meet the challenges of successfully addressing climate change and promoting its quality of life. While SANDAG coordinates with the San Diego County Water Authority (CWA) on the regional growth forecast, which is used to inform the CWA's Urban Water Management Plan, SANDAG is not responsible for establishing guidelines or identifying incentives to reduce water demand. That responsibility lies specifically with the CWA, the Metropolitan Water District, and other water-related state and federal agencies. That said, we have added information to Chapters 1 and 3 acknowledging the impacts of the drought, explaining the benefits of compact development via a six water consumption, and calling for continued collaboration between the two agencies on this resource. Regarding energy demand, SANDAG has taken action through guidance documents, tools, and/or incentives to support local and regional efforts to reduce energy use. Additionally, SANDAG and the Regional Plan promote energy and water efficiency, clean energy supplies, building efficiencies, benchmarks, and energy stewardship through the Regional Energy Strategy (RES) and Energy Roadmap Program (ERP). The RES includes Energy Roadmap Program (ERP). The RES promotes and funds energy efficiency and water efficiency via on-site projects and local government incentives. The RES is a policy guide for the region that is used by local and regional governments to inform their sustainability efforts. The RES is a progress report on achieving each RES goal. Your comments regarding energy efficiency in the "RCP guidance" component of the proposed plan refers to the plan's five building blocks and five strategies to move us toward sustainability shown on page 26 of Chapter 2. Non-transformation energy supply and demand is an inherent part of the first building block, "A land use pattern that accommodates our region's future employment and housing needs, and protects sensitive habitats and resource areas." Three of the regional energy planning efforts that helped inform this | Letter |

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### Updated Public Comments and Responses on the Draft Regional Plan

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<tr>
<td>968</td>
<td>Mike Bullock</td>
<td>DEMCCO</td>
<td>The Democratic Club of Carlsbad and Oceanside (DEMCCO) appreciates the opportunity to communicate with you concerning this important topic, as you focus on whether or not to approve your proposed Regional Transportation Plan for 2015, San Diego Forward (the “proposed Plan”). We oppose the proposed Plan because it fails to achieve climate stabilizing targets, it expands freeways, and it increases the negative health impacts of air pollution. Oceanside and Carlsbad have many neighborhoods that will be harmed by widening Interstate 5 (I-5) from 8 to 12 lanes. Many years ago, by a unanimous vote of both our Executive Board and those attending a general membership meeting, we approved a resolution in opposition to that project. Considering the Los Angeles experience of continually widening freeways, we believe that the traffic-growth inducement of such an expansion means that if all other factors were to be kept equal, the congestion would only be expanded, from 8 congested lanes to 12 congested lanes. If I-5 is expanded and State Route 78 (SR-78) is expanded, as described in the proposed Plan, then the interchange between them would need to be expanded. Figure 2 was constructed based on the primary Caltrans proposal to expand the interchange. Those “flyover” lanes would be about 300 feet from South Oceanside Elementary School.</td>
<td>Thank you for your feedback on the Regional Plan. The only mandated greenhouse gas (GHG) emissions targets applicable to SANDAG are the SB 375 per capita GHG emissions reduction targets for passenger vehicles. Chapter 2 describes how the proposed Plan meets and exceeds these targets for 2020 and 2035. While highway improvements are one part of the overall vision, the North Coast Corridor (NCC) Program is a comprehensive package of transportation, environmental, coastal access, and community enhancement projects to improve the quality of life throughout the region. The planned transportation improvements, which include Express Lanes on Interstate 5, double tracking the coastal rail line, and new bike paths, will provide the region additional travel choices. The final environmental document for the highway portion of the NCC Program identified the Express Lanes Only project as the preferred alternative because this option has the smallest environmental footprint, requires the fewest property relocations, and has the lowest construction cost. Additional program information can be found at KeepSanDiegoMoving.com/NCC.</td>
<td>Letter</td>
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Aiming for a Vision that Works for All

To provide innovative mobility choices and planning to support a sustainable and healthy region, a vibrant economy, and an outstanding quality of life for all.
Public Outreach

- **21** Public Workshops and Hearings
- Community group presentations
- Regional Phone Survey
- Notices, advertising and media relations
- Videos and interactive web activities
- Ongoing E-mail notifications
- Active social media presence
- **14** Partnerships with Community Based Organizations
- **1000+** comments received on the Draft Plan and **600+** on the Draft EIR

The Region’s population grows 30 percent by 2050

Each image represents 10,000 people, jobs or housing units
Our Changing Land Use Pattern

<table>
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<tr>
<th>Year</th>
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<th>1999 Planned Land Use</th>
<th>2015 Planned Land Use</th>
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<td>Prior Regional Growth Forecast (Series 5, 1999)</td>
<td>Current Regional Growth Forecast (Series 13, 2014)</td>
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- Growth in Housing Units: 1 dot = 10 new housing units
- Growth in Employment: 1 dot = 10 new jobs
- Open Space

Open Space Preservation

More than half the land in the county will be preserved as open space.

- Planned for Preservation: 1.5 million acres
- Available for Development: 1.2 million acres
- Total: 2050

Available for Development

Planned for Preservation
2050: $101 Billion in More Transit Choices

- Five new Trolley lines
- 32 new Rapid lines
- SPRINT express service and extension
- Continued COASTER double tracking
- Four new streetcar lines
- Three new intermodal transit centers

Next 5 Years – 75% of all regional funds invested in Transit and Active Transportation
2050:
160 Miles of Additional Managed Lanes

- Managed Lanes
- Operational improvements
- Highway lanes
- New HOV and highway connectors

2050:
$5 Billion in More Biking and Walking Choices

- Complete the Regional Bike Network
- Complete the $200 million Bike Early Action Program by 2025
- Additional investments
  » Safe routes to transit projects
  » Safety improvements at highway interchanges
  » Safe routes to school programs
  » Local bike and pedestrian projects
2050: $5 Billion in More Biking and Walking Choices

275 miles of bikeways – More than the distance between San Ysidro and Santa Barbara

Incorporating innovative technology and maximizing our system
Regional Plan Exceeds State Greenhouse Gas Emissions Reductions Targets

SB 375 Greenhouse Gas Targets* and Emissions Reductions

*Targets set by State for SANDAG to reduce Per Capita CO2 Emissions from Passenger Vehicles
Implementing the Plan: Where does the money come from and when?

Major Revenue Sources
- TransNet 13%
- State 34%
- Federal 18%
- Local 35%

Phased Revenues
- 2014-2020 (8%)
- 2021-2035 (29%)
- 2036-2050 (63%)

$203.8 billion in year of expenditure (YOE) dollars

Regional Plan brings Jobs and increases Gross Regional Product

- Annual Jobs +53,000
- Annual GRP +$13 billion
Social Equity Engagement and Analysis

• Collaboration with Community Based Organizations
• Analysis of Disadvantaged Populations
• Assessment of equitable access to transportation choices
• Assessment of the distribution of transportation improvements
• No significant inequities were found

EIR Process

• Draft EIR
  – 55-day public review period (May 21, 2015 to July 15, 2015)
  – Over 600 comments
• Final EIR
  – Written responses to all comments on the Draft EIR published September 29, 2015 and included in Final EIR Appendix K
  – Includes revisions to Draft EIR based on public comments and changes between the Draft and Final Plan
  – None of the revisions constitute “significant new information”
• Adopt Resolution, Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program.
**Scope and Content of EIR**

- Forecasted growth and land use pattern
- Transportation network improvements and programs
- Three horizon years (2020, 2035, 2050)
- 60 significance criteria; 32 significant impacts
- Significant impacts for 15 of 16 resource topics
- Over 50 mitigation measures
- Seven potentially feasible alternatives
- Several enhancements compared to last EIR

**Greenhouse Gas Analysis**

- **GHG-1:** No increase emissions over 2012 levels
- **GHG-2:** No conflict with AB 32, SANDAG Climate Strategy, or adopted local climate plans
  - Total regional emissions lower than 1990 levels by 2020
- **GHG-3:** No conflict with SB 375 GHG targets
- **GHG-4:** Inconsistent with State’s Ability to Achieve Governor’s Executive Order Goals
  - **Order B-30-15:** reduce California’s emissions to 40 percent below 1990 level by 2030
  - **Order S-3-05:** reduce California’s emissions to 80 percent below the 1990 level by 2050
Executive Order Consistency Analysis

- GHG-4: Would the Plan be inconsistent with the state’s ability to achieve the Executive Order B-30-15 and S-3-05 goals of reducing California’s GHG emissions to **40 percent below 1990 levels by 2030 and 80 percent 1990 levels by 2050**?
- Identify regional “reference points” for 2035 and 2050 based on “equal share” of statewide goals
- No requirement for regions to achieve “equal share” of statewide goals

Executive Order Consistency Analysis

![Graph showing GHG emissions reduction targets](image)
Meeting California’s 2020 Emissions Target

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<td>Renewable Electricity Standard (20%-33%)</td>
<td>11.5</td>
<td>14.7%</td>
<td></td>
</tr>
<tr>
<td>Million Solar Roofs</td>
<td>1.1</td>
<td>1.4%</td>
<td></td>
</tr>
<tr>
<td>High Global Warming Potential (GWP) Gases</td>
<td>5.4</td>
<td>6.9%</td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td>1.8</td>
<td>2.3%</td>
<td></td>
</tr>
<tr>
<td>Cap-and-Trade Reductions</td>
<td>23</td>
<td>29.4%</td>
<td></td>
</tr>
<tr>
<td>Statewide 2020 Limit</td>
<td>431</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

Transportation (T-1)

**T-1: Would the Plan increase average vehicle miles traveled per capita or total vehicle miles traveled?**

- Amount of driving per person would decrease under the Plan
- Total VMT would increase, mainly because of population growth
Greenhouse Gas Mitigation Measures

- Modify grant criteria to give greater weight to projects that reduce GHG emissions
- Adopt a Detailed Mobility Hub Implementation Plan
- Assist local agencies with the preparation of climate action plans
- Fund electric vehicle charging infrastructure
- Adopt a plan for alternative transportation fuels

Potentially Feasible EIR Alternatives

- Major elements of the EIR alternatives
  - Complete all public transit and active transportation projects by 2025
  - Include “unconstrained” transit projects in transit network
  - Delay or eliminate general purpose highway lanes and new Managed Lanes
  - Convert general purpose lanes to Managed Lanes
  - Plan for more compact land use pattern
  - Lower transit fares
  - Increase cost of parking
  - Increase cost of driving
"Environmentally Superior" Alternative 5D

- More concentrated land use
- All revenue constrained/unconstrained transit by 2025
- All active transportation projects by 2025
- No new Managed Lane investments
- No new highway investments
- Convert general purpose lanes to Managed Lanes where Rapid bus will operate
- Cut transit fares in half
- Increase auto operating costs by 50 percent
- Increase transit frequencies
- Double cost of parking

"Environmentally Superior" Alternative 5D

- 40% below 1990 levels by 2030
- 80% below 1990 levels by 2050

- Reference Points
- Total emissions - Plan
- Total emissions - Alt 5D
Board actions on the EIR

Today the Board is asked to consider adopting Resolution No. 2016-05:
- Certifying the Final EIR
- Adopting environmental findings
- Adopting a mitigation monitoring and reporting program
- Adopting a statement of overriding considerations

The Regional Plan/SCS...

- **Preserve** more than half our land as open space
- **Exceed** greenhouse gas reduction targets
- **Provide** more mobility choices
- **Invest** $204 billion in transportation
- **Dedicate** 50 percent of the revenues to transit projects and services
- **Program** 75 percent of near-term funds to transit & active transportation
- **Yield** almost $2 for every dollar invested
- **Support** the creation of 53,000 additional jobs each year
- **Yield** $13 billion in Gross Regional Product each year
- **Respond** to changes in transportation technologies
- **Reduce** number of people driving alone in peak periods
- **Increase** jobs close to transit from 42 percent to 71 percent
Recommendation

The Board of Directors is asked to:

1) Adopt Resolution No. 2016-05, certifying that the Final Environmental Impact Report (EIR) for San Diego Forward: The Regional Plan (Regional Plan) has been completed in compliance with the California Environmental Quality Act (Public Resources Code §21000 et seq.), that the Final EIR was presented to, reviewed, and considered by the Board of Directors prior to approving the Project, and that the Final EIR represents the independent judgment and analysis of SANDAG; and adopting the Findings, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program; and

Recommendation (Cont.)

The Board of Directors is asked to:

2) Adopt Resolution No. 2016-06, adopting the air quality conformity determination, finding that the Sustainable Communities Strategy (SCS) achieves the greenhouse gas reduction targets established by the California Air Resources Board, and meets the requirements codified in Government Code §65080(b) et seq.; finding that the Revenue Constrained Plan is in conformance with the State Implementation Plans for air quality; and adopting the Regional Plan, including its SCS, and the Final 2050 Regional Growth Forecast.
Administrator Gina McCarthy
Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

October 7, 2015

Dear Administrator McCarthy,

We commend the Environmental Protection Agency (EPA) for initiating this rulemaking to limit carbon pollution from airplanes. Airplanes are a significant contributor to global climate change and ocean acidification—grave environmental problems that threaten the health and welfare of current and future generations of Americans. If the global aviation industry were a country, it would have been the seventh largest emitter of CO2 emissions in 2011, just after Germany and well ahead of Korea. Worse, global aircraft emissions are expected to triple by 2050. Since airlines are a significant contributor to climate-disrupting pollution, it is critical that EPA move forward with bold action to rein in these dangerous emissions.

EPA should propose standards that are sufficiently stringent to deliver on President Obama’s pledge to stabilize U.S. aircraft emissions at 2005 levels by 2020, and to reduce economy-wide emissions by 26 to 28 percent from 2005 levels by 2025. Delivering on these commitments will require the United States to go far beyond the options currently being considered by the International Civil Aviation Organization (ICAO). We would welcome meaningful international standards, and encourage EPA to continue pushing ICAO towards greater stringency. But given that ICAO has already decided to adopt a “technology following” standard and has ruled out the possibility of regulating in-use aircraft, it is clear that the United States cannot achieve the emission reductions we need by simply rubberstamping the ICAO standards. EPA can and must do more.

Fortunately, the Clean Air Act provides EPA with ample authority to curb this dangerous pollution. As EPA recognized in 2008, the Act authorizes a fleet-wide averaging system that applies to new and in-use aircraft. Drawing upon this authority, EPA should propose a fleet-wide averaging system that is sufficiently stringent to stabilize and then reduce U.S. aviation emissions, consistent with the United States’ international commitments and EPA’s duty to protect the American public from dangerous air pollution.
We look forward to working with EPA to implement the bold action that is needed to protect our nation's health and welfare.

Sincerely,

Ted W. Lieu  
Member of Congress

Eleanor Holmes Norton  
Member of Congress

Donald S. Beyer Jr.  
Member of Congress

Matt Cartwright  
Member of Congress

Elliot L. Engel  
Member of Congress

Alan Grayson  
Member of Congress

Sam Farr  
Member of Congress

Alan Lowenthal  
Member of Congress

Raúl M. Grijalva  
Member of Congress

Keith Ellison  
Member of Congress

Barbara Lee  
Member of Congress

Jan Schakowsky  
Member of Congress

Karen Bass  
Member of Congress
Uber’s Mission
Uber’s mission is simple – to make transportation as accessible as running water. The company grew out of a desire to solve a very common problem and as a result, Uber is in a position to help tackle some of the biggest challenges facing our cities in the years ahead.

Many of these challenges stem from a transportation status quo that is unequal, insufficient and massively inefficient.

Right now, the world has over 1 billion cars on roads. Of those billion cars, 96% are not in use. Ninety-six percent of the time, people aren’t utilizing one of the most expensive assets they own.

And further, a full fifteen percent of the space in our cities is dedicated to storing these cars when they aren’t being driven.

Public transportation, of course, is part of the answer. But public transportation alone isn’t enough. Not everyone can live by a bus stop or a tram station. And today, there are still too many places that mass transit doesn’t serve; places where it’s hard to get a cab – the poorest neighborhoods and suburban communities where millions of people don’t have access to reliable, affordable transportation. It creates an unequal transportation ecosystem that makes people’s lives that much harder and more expensive to live.

And yet, while this may be the road that we’re on, it doesn’t have to be the road that we take. City by city, Uber’s technology and innovation is challenging the transportation status quo. These are some of the ways:

UberPOOL
On a daily basis, people spend far too many minutes, and even hours, in their vehicles -- often stuck in traffic. This wastes valuable time that can be spent with their loved ones, or in pursuit of personal and professional activities that are vital to their livelihood. Uber offers a real alternative to a world that looks like a parking lot and moves like a traffic jam, and one that gives people the freedom and the flexibility to move around more efficiently. Introducing UberPOOL, our carpooling product.

With UberPOOL you share the ride – and the cost – with another person who happens to be requesting a ride along a similar route. Riders share the cost between them while adding only a few minutes of time per trip. By sharing a car, roads are less congested and there are fewer cars emitting pollutants into the environment. UberPOOL is a new mode of transportation that complements and improves the system we have today - with real, tangible benefits to cities. UberPOOL is only available in a handful of places, and already we’ve seen millions of UberPOOL ride requests. Thousands of users are starting to view UberPOOL as a viable commute option, taking UberPOOL trips more than five times in a week during commute hours. In San Francisco, nearly half of all trips are now UberPOOL trips.
Reducing Congestion:
Uber on the road reduces the need to use Single Occupancy Vehicles (SOV’s). This means fewer cars on the road -- and less congestion. In addition, Uber helps lower barriers to transit, bringing people and places in cities across the country closer without the downsides of added traffic and congestion typically resulting from SOVs. For example, in New Jersey, studies show that in October 2014, trips near rail stations accounted for 23% of Uber trips that started and/or ended in New Jersey.

Bridging First/Last Mile Transportation:
Uber can work with city transit services to help complement existing transit modes. This includes helping to close the first/last mile gaps that exist for many commuters, removing cars from the road and cutting back on congestion, and providing commuters with a precious resource -- their time. The less time in transit means more time travelers have to spend with loved ones.

Over half of Uber rides are one-way trips, suggesting that riders depend on another mode of transit to complete the next stage of their journey. For example, over the course of a month in San Diego, trips that started or ended within 1/4th of a mile of a metro station accounted for nearly 30% of all Uber trips. This data suggests that people are using Uber as a last-mile and first-mile connection to public transit.

Small Business Connections:
In addition, TNCs like Uber increase access to small and independent businesses. This means more investment into local economies -- and less congestion in parking lots or in areas where parking is limited. In San Francisco, roughly 31% of trips on the Uber platform begin or end at an independent business, and those trips are scattered across the city, often in places that are not easily accessible by other means.

Conclusion:
We envision a world where transportation is as reliable as running water, everywhere, for everyone. We cannot get there without dedicated support, transportation partnerships, and resources, such as dedicated ridesharing pickup locations, from the leadership of cities like San Diego. We look forward to working together with SANDAG in support of the “San Diego Forward” plan and to building a less congested, less polluted, and more accessible San Diego.

Sincerely,

Christopher T. Ballard
General Manager – Uber San Diego
From: Joel Kramer <nooceannopoint@gmail.com>
Date: October 9, 2015 at 6:24:39 AM PDT
To: <comment@sandag.org>
Subject: There is a better way

The Regional Plan falls short of community needs; therefore, we are not able support the Regional Plan and urge the SANDAG Board to vote No.

Even though there are a number of transit and active transportation projects we are supportive of because they will greatly benefit the communities in the South Bay, there are a number of freeway projects that will be detrimental to the community’s health and will not improve sustainable mobility in the long run. Community members have continually expressed their concern and disapproval of increasing car capacity through lane additions on South Bay Freeways (i.e., I-5, I-805, I-15, SR-94). These freeways cut through many environmental justice communities and believe this type of planning and investment will not improve local and regional sustainable mobility in the long-run, but further impact communities that are already overburdened by air pollution.

Tell the SANDAG Board today to vote NO!

Sincerely,

Joel Kramer
Normal Heights
We oppose the RTP and ask you to vote no on Friday. Your vote counts and is needed for the future, health, and prosperity of our region. Our City does not need more freeways or more vehicles. It needs opportunities. Residents need options such as transit, biking and walking. With our beautiful year round weather, our City should be the most bike friendly city in the world and it can be but not without your leadership and prioritization. It is unbelievable that other cities such as Portland, Seattle, Boston, NY have a much higher ridership than San Diego but are freezing cold and rainy half the year. This happens because they have prioritized bike infrastructure. It is time for SD to really start investing in a safe bike network so all SD residents have the opportunity to become active and productive commuters. We cannot continue to accommodate vehicles, pollute our environments, and stay course with Sandag's current direction. We need our representatives to seek better. We can do better and we must do better - for our youth and our future.

As I currently am pedaling through this nation for better bike infrastructure, healthier communities, and a vibrant economy, I understand bikes mean business and I urge you to vote no on this RTP and begin the ride to prosperity. San Diego should have more riders than other cities with far worse weather conditions but we don't, because we don't have the leadership to create the needed infrastructure. It takes priority and dedication from Sandag to fully implement a regional bike network and it takes your leadership to make it happen. Help create Safe Routes to Schools for all the kids so they can enjoy riding to their neighborhood schools and learn healthy lifestyle habits. Help build safe bike facilities so that residents can actively commute to their work, so that the military can ride as part of their fitness regimen, and so that our tourists can enjoy our city by bike. Ecotourism is the future and bikes are a super efficient, healthy, and fun mode of transportation.

Please vote no on this plan that will ultimately destroy the beauty of our city. No more freeways please! Our city deserves to be amazing! Dreaming big for our future and pedaling for change, I hope you can support a healthy San Diego and vote no to this RTP plan.

Sincerely,

Your Bike Friend

Nicole Burgess