MEETING NOTICE
AND AGENDA

SAN DIEGO CONFORMANCE WORKING GROUP
The San Diego Conformance Working Group may take action on any item appearing on this agenda.

Wednesday, May 4, 2011

10:30 a.m. to 12 noon

SANDAG, Conference Room 8B
401 B Street, Suite 800
San Diego, CA 92101-4231

Staff Contact: Rachel Kennedy
(619) 699-1929
rke@sandag.org

AGENDA HIGHLIGHTS

- 2050 REGIONAL TRANSPORTATION PLAN (RTP): DRAFT AIR QUALITY PLANNING AND TRANSPORTATION CONFORMANCE DOCUMENT AND RTP SCHEDULE

Please contact Rachel Kennedy prior to the meeting if you wish to participate by conference call.

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In compliance with the Americans with Disabilities Act (ADA), SANDAG will accommodate persons who require assistance in order to participate in SANDAG meetings. If such assistance is required, please contact SANDAG at (619) 699-1900 at least 72 hours in advance of the meeting.

To request this document or related reports in an alternative format, please call (619) 699-1900, (619) 699-1904 (TTY), or fax (619) 699-1905.
The summary of the March 2, 2011, San Diego Conformity Working Group (CWG) meeting is attached. The CWG is asked to review the meeting summary.

Members of the public will have the opportunity to address the Working Group on any issue within the jurisdiction of the Working Group that is not on this agenda. Speakers are limited to three minutes each and shall reserve time by completing a “Request to Speak” form and giving it to the staff prior to speaking. A maximum of ten minutes will be allotted; if there are additional speakers, they will be addressed at the end of the meeting.

On April 22, 2011, the SANDAG Board of Directors released the Draft 2050 RTP and its air quality conformity document for a public comment period which will close on June 30, 2011. SANDAG staff will provide an overview of the 2050 RTP Draft Air Quality Conformity Report and the schedule for public outreach and adoption of the 2050 RTP.

Staff from U.S. Environmental Protection Agency (EPA), and the San Diego Air Pollution Control District will provide an update on the proposed rule to Implement the 1997 8-Hour Ozone standard.

The next meeting of the CWG is scheduled for June 1, 2011, from 10:30 am to 12 noon at SANDAG.
SUMMARY OF MARCH 2, 2011, MEETING

Item #1: Introductions

Self-introductions were made. See attached attendance list.

Item #2: Summary of January 5, 2011, Meeting

Rachel Kennedy, SANDAG, asked the Conformity Working Group (CWG) to review the meeting summary. No corrections were made.

Item #3: Public Comments/Communications

No public comments were made.

Item #4: 2050 Regional Transportation Plan: Conformity Criteria and Procedures

a. Revenue Constrained Financial Assumptions

Sookyung Kim, SANDAG, commented that as the 2050 Regional Transportation Plan (RTP) has progressed towards the phasing area, the revenues have been slightly revised. She mentioned that from this point forward, the year of expenditure amounts will be provided rather than the 2010 constant dollars. Ms. Kim highlighted the draft estimates are (provided as an attachment) organized by decade and funding type and she pointed out that the total amount of $190 million reflects year of expenditure dollars.

b. Public Outreach Update

Anne Steinberger, SANDAG, shared a status report of the public outreach activities (provided as an attachment). The report compiled activities through December 2010, such as board meetings, committee meetings, stakeholder working group presentations, etc. Ms. Steinberger also highlighted activities such as outreach conducted via newsletters, as well as the media coverage received.

Ms. Steinberger also highlighted a list (provided as an attachment) of more than 100 presentations conducted at various meetings of City Councils, Chambers of Commerce, and business and community groups. Ms. Steinberger pointed out the public involvement requirements outlined in Senate Bill 375, and how SANDAG’s activities to date, and the activities planned meet those requirements. A list of these requirements and activities was provided as an attachment.
SANDAG’s Public Involvement Plan also was provided as an attachment, which outlines the efforts that are being undertaken as the Draft 2050 RTP is developed and going forward to solicit and receive public input. Ms. Steinberger highlighted that outreach efforts continue. SANDAG will meet with the Stakeholders Working Group to get their feedback on how to secure input on the Draft 2050 RTP when it is released. SANDAG continues to develop its visualization tool, which will provide an easy to understand computer program for people to learn how the RTP was developed. This tool also can be used as a way to provide input on the Draft 2050 RTP.

c. Draft Air Quality Planning and Transportation Conformity Report

Rachel Kennedy, SANDAG, gave an overview of some of the highlights of the report, which was provided as an attachment.

BACKGROUND

The federal Clean Air Act (CAA), which was last amended in 1990, requires the U.S. Environmental Protection Agency (EPA) to set national ambient air quality standards (NAAQS) for pollutants considered harmful to public health and the environment. California has adopted state air quality standards that are more stringent than the NAAQS. Areas with levels that exceed the standard for specified pollutants are designated as nonattainment areas.

The U.S. EPA requires that each state containing nonattainment areas develop plans to attain the NAAQS by a specified attainment deadline. These attainment plans are called State Implementation Plans (SIPs). 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.

SANDAG and the U.S. Department of Transportation (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.


The air basin initially was classified as a basic nonattainment area under Subpart 1 of the California CAA, and the attainment date for the Eight-Hour Ozone Standard was set as June 15, 2009. However, the U.S. EPA, in response to a court decision, is expected to rule in 2011 that the San Diego basic nonattainment area be reclassified as a Subpart 2 Serious nonattainment area, with a maximum statutory attainment date of June 15, 2013. Final U.S. EPA action on this proposed reclassification has yet to be taken.
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, the (California) Air Resources Board (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 COMFORMITY: MODELING PROCEDURES

Introduction

SANDAG has developed the Revenue Constrained Scenario of the 2050 San Diego RTP to conduct the required air quality conformity analysis. Conformity of the 2010 RTIP Amendment No. 98 has been determined simultaneously for consistency purposes. Tables B.3 and B.5 include the conformity analysis for both the 2050 Revenue Constrained RTP and the 2010 RTIP Amendment No. 98. The 2050 RTP provides information on revenue assumptions and the Revenue Constrained Scenario.

2050 RTP Air Quality Conformity Methodology

While the horizon year of this RTP is 2050, the current version of the emissions model approved by the U.S. EPA, EMission FAceTors (EMFAC) 2007 only contains emission factors to 2040. Because no other emissions model is approved for use in conformity determinations by metropolitan planning organizations (MPOs) in California, staff explored options under the Transportation Conformity Rule to conduct the air quality conformity determination for the 2050 RTP.

SANDAG staff conducted interagency consultation on the proposed methodology for conducting the 2050 RTP air quality conformity analysis with the CWG at its August 4 and September 1, 2010, meetings. The CWG concurred with the proposed methodology. In concurrence with the approved methodology, SANDAG staff conducted the Air Quality Conformity Analysis for the 2050 RTP for 2011 through 2040, with the analysis years of 2018, 2020, 2030, and 2040. SANDAG conducted a regional emissions analysis (for information purposes only) for 2050. To perform the informational analysis for 2050, SANDAG used the 2050 travel data from the SANDAG transportation model as input into EMFAC 2007 for the last year of the EMFAC 2007 model (2040).

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 is the 2050 Regional Growth Forecast, which the SANDAG Board of Directors accepted on February 26, 2010, for planning purposes.

In April 2010, SANDAG consulted with the CWG on the use of the 2050 Regional Growth Forecast for the air quality conformity analysis for the 2050 RTP conformity determination. Previously, both the U.S. DOT and the U.S. EPA concurred that approved plans should be used as input in the air quality conformity process. Figure B.2 and Table B.1 in the attachment show the regional population, jobs, and housing growth forecast for the San Diego region through 2050.

The 2050 Regional Growth Forecast is based largely on the adopted general plans and community plans and policies of the 18 cities, and in some cases, includes draft plans that are nearing completion. 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 its projections for land uses in those later years. For unincorporated areas, the forecast is based on the County’s referral alternative draft of the General Plan update, with additional constraints included for sensitive habitat areas.

The 2050 Regional Growth Forecast incorporates new data from the recent economic downturn, and it is the first forecast prepared under the guidelines of SB 375. SB 375 calls for housing all of the region’s population within the region, rather than relying on interregional commuting patterns to help accommodate future growth.

**Transportation Modeling**

SANDAG follows a widely used, four-step transportation modeling process of trip generation, trip distribution, mode choice, and assignment to forecast travel activity in the San Diego region. After a first pass-through of the four steps, a feedback process is used to pass congested travel conditions back into trip distribution and through to assignment. After several feedback iterations, a final pass is made through the mode choice and assignment steps to reflect congested travel conditions in mode decision-making. Travel model results are then combined with additional post-process input and output functions to form the complete modeling chain. For the first time, a truck model is run parallel to the four-step model. Truck origin-destination trip tables are merged with vehicle trip tables for highway assignment and air quality procedures.

The estimates of regional transportation-related emissions analyses meet the requirements established in the Transportation Conformity Rule, Sections 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 of travel.

TransCAD 5.0 is the transportation planning computer package used by SANDAG to provide a framework for performing much of the computer processing involved with modeling, and it is used for the trip distribution and assignment steps. Another software package used extensively in the modeling process is ArcInfo. This geographic information system (GIS) maintains, manipulates, and displays transportation, land use, and demographic data.

**Emissions Model**

In November 2006, the ARB released EMFAC 2007, an emissions inventory model that calculates emissions for motor vehicles operating in California. It is an integrated model that combines emission rate data with vehicle activity to calculate regional emissions. The U.S. EPA approved EMFAC 2007 for use in conformity determinations on January 18, 2008. The EMFAC 2007 model supports the calculation of emissions for the burden mode. The Burden mode is used for calculating regional emission inventories. In this mode, the model reports total emissions as tons per day for each pollutant, by vehicle class, and the total vehicle fleet. The Burden mode uses emission factors that have been corrected for ambient conditions and speeds combined with vehicle activity to calculate emissions in tons per day. Vehicle activity includes the number of vehicles, daily vehicle miles traveled (VMT), and the number of daily trips.
The air quality analysis of the 2050 RTP was conducted using EMFAC 2007’s Burden mode. Projections of daily regional emissions were prepared for reactive organic gases (ROG), nitrogen oxides (NOx), and CO.

**Regional Emissions Forecast**

Regional transportation forecasts were initiated in December 2010. Output from the TransCAD model was then reformatted and adjusted to be useful for emissions modeling.

**Eight-Hour Ozone Standard**

Effective June 9, 2008, the U.S. EPA found the eight-hour ozone budgets included in the *Eight-Hour Ozone Attainment Plan for San Diego County* adequate for transportation conformity purposes. In December 2010, SANDAG prepared countywide forecasts of average weekday ROG and NOx emissions for 2018, 2020, 2030, 2040, and 2050 (for informational purposes) using the EMFAC 2007 model. ROG and NOx emissions are based on the summer season.

The analysis years were selected to comply with Sections 93.106(a)(1) and 93.118(a) of the Transportation Conformity Rule and the approved methodology for conducting the 2050 RTP Air Quality Conformity Analysis, which shortened the conformity horizon to 2040 and requires an informational analysis of the plan horizon year (2050). According to these sections of the Conformity Rule, the first horizon year (2018) must be within ten years from the base year used to validate the regional transportation model (2008), the last horizon year must be the last year of the transportation plan’s forecast period, or in the case of the 2050 RTP, the last year of the conformity determination (2040), and the horizon years may be no more than ten years apart (2020 and 2030).

**CO Standard**

CO regional emissions were projected for 2018, 2020, 2030, 2040, and 2050 (for informational purposes) for the conformity determination of the 2050 RTP. CO emissions are based on the winter season.

**Emissions Modeling Results**

To determine conformity of the 2050 RTP, the plan must comply with the emissions analysis described in the Regional Emissions Forecast section. Table B.3 in the attachment shows that the projected ROG and NOx emissions from the 2050 RTP are below the ROG and NOx budgets.

Adjustment factors for ROG and NOx were provided by the ARB to account for recently-adopted emission control programs not reflected in EMFAC 2007 and other corrections. Table B.4 in the attachment includes the adjustment factors by analysis year.

Table B.5 in the attachment shows that projected CO emissions from the 2050 RTP are below the 2003 CO budget of 730 tons per day.
**Exempt Projects**

Section 93.126 of the Transportation Conformity Rule exempts certain highway and transit projects from the requirement to determine conformity. The categories of exempt projects include safety, mass transit, air quality (ridesharing and bicycle and pedestrian facilities), and other (such as planning studies).

Table B.6 in the attachment illustrates the exempt projects considered in the 2050 Revenue Constrained RTP. 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.

**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 ridesharing, transit service improvements, traffic-flow improvements, and bicycle 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, bicycling, and traffic-flow improvements continue to be funded, although the level of implementation established in the SIP has been surpassed.

**Interagency Consultation Process and Public Input**

The consultation process followed to prepare the Air Quality Conformity Analysis for the 2050 RTP complies with the San Diego Transportation Conformity Procedures adopted in July 1998. In turn, these procedures comply with federal requirements under 40 CFR 93. Interagency consultation involves SANDAG (as the MPO for San Diego County), the Air Pollution Control District (APCD), Caltrans, ARB, U.S. DOT, and U.S. EPA.

Consultation is a three-tier process that:

1. Formulates and reviews drafts through a conformity working group
2. Provides local agencies and the public with opportunities for input through existing regional advisory committees and workshops
3. Seeks comments from affected federal and state agencies through participation in the development of draft documents and the circulation of supporting materials prior to formal adoption

SANDAG consulted on the development of the Air Quality Conformity Analysis of the 2050 RTP at meetings of the CWG. The most recent consultations include the following:

- On February 24, 2011, the draft 2050 RTP Air Quality Conformity Analysis was released to the CWG for a 30-day review.
At the March 2, 2011, CWG meeting, the draft 2050 RTP Air Quality Conformity Analysis was discussed.

On April 22, 2011, the SANDAG Board of Directors is anticipated to release the Draft 2050 RTP, including its air quality conformity analysis, for a 55-day public review period.

Members of the public are welcome to provide comments at meetings of the CWG, the Transportation Committee, and the SANDAG Board of Directors.

Ms. Kennedy gave a brief overview of the tables that highlighted the different transportation projects that were included in the conformity modeling. She mentioned that the tables were organized by conformity analysis year and types of projects.

Mike Brady, Caltrans, asked EPA staff if SANDAG would not be required to continue doing CO analysis for conformity after 2018, assuming San Diego was still in attainment. John Kelly, EPA, commented that the requirement to do conformity analysis applies only if you are a maintenance area and that when a maintenance plan is approved, that is the re designation to attainment. After the tenure maintenance plans are over, regions would be done with the conformity requirements and would be treated like a (Prevention of Significant Deterioration) (PSD) area. Mr. Kelly mentioned that he would verify this information with Karina O’Connor, EPA.

Ilene Gallo, Caltrans, asked how EMFAC 2010 figured into any of SANDAG’s modeling. Ms. Kennedy commented that the draft RTP with the air quality analysis would be released in April and if the EMFAC 2010 becomes available between that time and the close of the comment period, SANDAG also could run the air quality analysis for the final RTP with both the 2007 and 2010 versions of EMFAC. This same practice was done with the past 2030 RTP using the 2002 and 2007 EMFAC versions. At the time of adoption, SANDAG would take action on the conformity analysis prepared with the applicable version of EMFAC (whichever version of EMFAC has been approved by EPA for conformity determination).

Mr. Brady commented that since SANDAG has already started doing the conformity analysis using EMFAC 2007 and has formally documented it, SANDAG could probably finish using EMFAC 2007. Elisa Arias, SANDAG, mentioned that it may be to SANDAG’s advantage to use EMFAC 2010 if it is approved by EPA on time so SANDAG will not have to re determine conformity within the grace period.

Ms. Arias asked when the comment period ends for the CWG. Ms. Kennedy mentioned that the closing date for the CWG is March 26, and that if any other comments or questions arose before that date they could be e-mailed to her. Ms. Arias added that the sooner comments were received the better since the draft RTP would be sent for printing the last week of March.

**Item #5: Emission Factors (EMFAC) 2010 Development**

Dennis Wade, ARB, commented that there is no definite release date in mind, although it is expected to be soon.
**Item #6: Eight-Hour Ozone Standard Re-classification Update**

Mr. Kelly mentioned that the target EPA headquarters has in mind is still the beginning of May for signature of the final rule that would reclassify San Diego as “serious.” San Diego would be the only area to receive a higher classification as serious because the moderate date was missed and San Diego does not qualify for a one-year extension, so it would get bumped up to serious. EPA Region 9 is working with the San Diego APCD to make sure that the timeline EPA follows in terms of SIP deadlines makes sense so that San Diego can meet the requirements.

**Item #7: Other Business**

Ms. Kennedy mentioned that the next statewide CWG meeting would be held on March 10, 2011. Ms. Kennedy also stated that the next meeting of the CWG is scheduled for Wednesday, April 8, 2011, from 10:30 a.m. to 12 noon at SANDAG. Meeting materials will be sent to the group in advance.
San Diego Region Conformity Working Group

Meeting Attendance
March 2, 2011

<table>
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<tr>
<th>Name</th>
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<td>Dennis Wade (phone)</td>
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<tr>
<td>Mike Brady (phone)</td>
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<td>Ilene Gallo (phone)</td>
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<td>Rachel Kennedy</td>
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<td>Sookyung Kim</td>
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<td>Anne Steinberger</td>
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<td>Carl Selnick (phone)</td>
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<td>Carla Walecka</td>
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Appendix B

Air Quality Planning And Transportation Conformity

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Background

The federal Clean Air Act (CAA), which was last amended in 1990, requires the U.S. Environmental Protection Agency (EPA) to set national ambient air quality standards (NAAQS) for pollutants considered harmful to public health and the environment. California has adopted state air quality standards that are more stringent than the NAAQS. Areas with levels that exceed 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. These attainment plans are called State Implementation Plans (SIPs). 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 176(c) of the federal Clean Air Act (42 USC §7506(c)), the San Diego Association of Governments (SANDAG) and the U.S. Department of Transportation (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.


The air basin initially was classified as a basic non-attainment area under Subpart 1 of the CAA, and the attainment date for the Eight-Hour Ozone Standard was set as June 15, 2009. However, the U.S. EPA, in response to a court decision, is expected to rule in 2011 that the San Diego basic non-attainment area be reclassified as a Subpart 2 Serious non-attainment area, with a maximum statutory attainment date of June 15, 2013. Final U.S. EPA action on this proposed reclassification has yet to be taken.

Several areas that are tribal lands in eastern San Diego County were excluded from the 1997 Eight-Hour Ozone Standard non-attainment designation. As shown in Figure B.1, the following are attainment areas for the 1997 Eight-Hour Ozone NAAQS: La Posta Areas #1 and #2, Cuyapaipie, Manzanita, and Campo Areas #1 and #2.
Figure B.1
Eastern San Diego County Attainment Areas for the Eight-Hour Ozone NAAQS
April 2011

Data Source: US EPA, Region 9 GIS Center
1997 Eight-Hour Ozone Standard
In cooperation with the San Diego APCD and SANDAG, the California Air Resources Board (CARB) developed an Eight-Hour Ozone Attainment Plan for the 1997 Eight-Hour Ozone Standard, which was submitted to the U.S. EPA on June 15, 2007. 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.

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, the 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 of the 2050 San Diego RTP to meet the required air quality conformity analysis. Conformity of the 2010 RTIP Amendment No. 98 has been determined simultaneously for consistency purposes. Tables B.3 and B.5 include the conformity analysis for both the 2050 Revenue Constrained RTP and the 2010 RTIP Amendment No. 98. The 2050 RTP provides information on revenue assumptions and the Revenue Constrained Scenario. In addition, this conformity determination fulfills the requirements of SB 375, which requires a Sustainable Communities Strategy that allows for compliance with Section 176 of the federal Clean Air Act. (California Government Code, Section 65080(b)(2)(B)(iii)).

#### 2050 RTP Air Quality Conformity Methodology

While the horizon year of this RTP is 2050, the current version of the emissions model approved by the U.S. EPA, EMission FACtors (EMFAC) 2007 only contains emission factors to 2040. Because no other emissions model is approved for use in conformity determinations by metropolitan planning organizations (MPOs) in California, staff explored options under the Transportation Conformity Rule to conduct the air quality conformity determination for the 2050 RTP.

SANDAG staff conducted interagency consultation on the proposed methodology for conducting the 2050 RTP air quality conformity analysis with the San Diego Region Conformity Working Group (CWG) at its August 4 and September 1, 2010, meetings. The CWG is comprised of staff representatives from SANDAG, the San Diego APCD, Caltrans, CARB, the U.S. DOT and U.S. EPA.

The CWG concurred with the proposed methodology. On September 17, 2010, the SANDAG Transportation Committee accepted, for review and distribution, the draft proposed methodology for conducting the air quality conformity determination for the 2050 RTP for a 30-day comment period. A public hearing on shortening the conformity timeline and the proposed methodology for the regional emissions analysis was held at the October 15, 2010, SANDAG Transportation Committee meeting. No comments were received at the hearing or in writing. The SANDAG Board of Directors approved the proposed methodology for conducting the 2050 RTP air quality conformity analysis on November 19, 2010.
In concurrence with the approved methodology, SANDAG staff conducted the Air Quality Conformity Analysis for the 2050 RTP for 2011 through 2040, with the analysis years of 2018, 2020, 2030, and 2040. SANDAG conducted a regional emissions analysis (for information purposes only) for 2050. To perform the informational analysis for 2050, SANDAG used the 2050 travel data from the SANDAG transportation model as input into EMFAC 2007 for the last year of the EMFAC 2007 model (2040).

**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 is the 2050 Regional Growth Forecast, which the SANDAG Board of Directors accepted on February 26, 2010, for planning purposes.

The forecast process relies on three integrated forecasting models. The first one, the Demographic and Economic Forecasting Model (DEFM), provides a detailed econometric and demographic forecast for the entire region. The second one, the Interregional Commuting Model, provides a forecast of commuting between the San Diego region, Orange County, southwest Riverside County, Imperial County, and Tijuana/Northern Baja California. The third one, the Urban Development Model, allocates the results of the first two models to subregional areas based upon the current plans and policies of the jurisdictions.

In April 2010, SANDAG consulted with the San Diego Region CWG on the use of the 2050 Regional Growth Forecast for the air quality conformity analysis for the 2050 RTP conformity determination and the CWG concurred. Previously, both the U.S. DOT and the U.S. EPA concurred that approved plans should be used as input in the air quality conformity process. Figure B.2 and Table B.1 show the regional population, jobs, and housing growth forecast for the San Diego region through 2050.

The 2050 Regional Growth Forecast is based largely on the adopted general plans and community plans and policies of the 18 cities, and in some cases, includes draft plans that are nearing completion. Because many of the local general plans have horizon years of 2030—twenty 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 its projections for land uses in those later years. For unincorporated areas, the forecast is based on the County’s referral alternative draft of the General Plan update, with additional constraints included for sensitive habitat areas.
Transportation Modeling

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The estimates of regional transportation-related emissions analyses meet the requirements established in the Transportation Conformity Rule, 40 CFR Sections 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 of travel.

TransCAD 5.0 is the transportation planning computer package used by SANDAG to provide a framework for performing much of the computer processing involved with modeling, and it is used for the trip distribution and assignment steps. Another software package used extensively in the modeling process is ArcInfo. This Geographic Information System (GIS) maintains, manipulates, and displays transportation, land use, and demographic data. SANDAG has written numerous programs that provide a linkage between TransCAD and ArcInfo. Other custom programs perform some modeling functions, such as trip generation and mode choice. A number of data files and surveys are used to calibrate the transportation models. These include:

- 1995 and 2006 Travel Behavior Survey
- 2001 Caltrans Statewide Travel Survey
- 2001-2003 San Diego Regional Transit Survey
- External Trip Surveys (2006 Interregional Travel Behavior Survey)
- Traffic Generation Studies
- 1991 San Diego Visitor Survey

Table B.1 – San Diego Regional Population and Employment Forecast

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<th>Year</th>
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<td>2008</td>
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<td>2020</td>
<td>3,535,000</td>
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<td>3,870,000</td>
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<td>2050</td>
<td>4,384,867</td>
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Source: 2050 Regional Growth Forecast, SANDAG, February 2010
In addition to model parameters derived from these surveys, there are three major inputs to the transportation models:

- Growth forecast inputs used to describe existing and planned land use patterns and demographic characteristics;
- Highway networks used to describe existing roadway facilities and planned improvements to the roadway system; and
- Transit networks used to describe existing and planned public transit service.

**Highway Networks**

The regional highway networks in the 2050 RTP 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 zones.

The route improvements and additions in the 2050 RTP 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.

The networks also account for programs intended to improve the operation of the highway system, including High Occupancy Vehicle (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 as well as 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. Facilities with proposed Managed Lanes include I-5, I-15, and I-805; and 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 plan transition to Managed Lanes after 2035. It is assumed that the excess capacity not used 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 D or better.
Based on the networks and programs described above, the transportation forecasts of the 2050 RTP differentiate among eight highway modes:

- Drive alone non-toll
- Drive alone toll
- Shared-ride non HOV/non-toll
- Shared-ride HOV/non-toll
- Shared-ride HOV/toll
- Light – heavy-duty
- Medium – heavy-duty
- Heavy – heavy-duty

SANDAG maintains a master highway network from which a specific-year network between the years 2008 (the 2050 Regional Growth Forecast base year) and 2050 can be built. Four networks were built and verified (2018, 2020, 2030, and 2040) for air quality conformity analyses of the 2050 RTP. A network also was built and verified for the year 2050 for an air quality analysis for informational purposes.

A list of the major highway and near-term regional arterial projects included in the conformity analysis, along with information on phasing their implementation, is included in Tables A.2 and A.4, located in Appendix A. Locally funded, regionally significant projects also have been included in the air quality conformity analysis. These projects are funded with TransNet funds, a 20-year, half-cent local sales tax for transportation that expired in 2008; 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. As a result, the only additional facilities that are added to the transportation coverage for transit modeling purposes are:

- Trolley and commuter rail lines
- Streets used by buses that are not part of local general plan circulation elements

There are seven transit modes that group routes with similar operating characteristics. They are:

- Commuter Rail
- Trolley/Light Rail
- Bus Rapid Transit (BRT)
- Rapid Bus
- Limited-Express Bus
- Express Bus
- Local Bus

BRT service would have stations similar to commuter rail and light rail, and operating characteristics midway between rail and bus service. BRT service would be provided by advanced design buses operating on HOV lanes, some grade-separated transit ways, and surface streets with priority transit systems. Once TransCAD transit networks have been built, TransCAD finds minimum
time paths between transit access points (TAPs). TAPs are selected transit stops that are used to represent walk and auto access to the transit system. The following four sets of paths are created for modes:

- A.M. Peak-period local bus
- A.M. Peak-period premium service
- Midday local bus
- Midday premium service

Bus speeds assumed in the transit networks are derived from modeled highway speeds and reflect the effects of congestion. Regional and express transit routes on surface streets are assumed to operate out of congestion due to priority transit treatments. Higher bus speeds may result for transit vehicles operating on highways with HOV lanes and HOV bypass lanes at ramp meters, compared with 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. TransCAD procedures replicate the San Diego region’s complicated fare policies which differ among:

- Buses, which collect a flat fare of between $1 and $4, 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 $5 and $6.50;
- Proposed regional BRT routes, which are assumed to charge $4; and
- Proposed Rapid Bus routes, which are assumed to charge $2.50.

Fares are expressed in 1999 dollars (consistent with household incomes from the 2050 Regional Growth Forecast) and are assumed to remain constant in inflation-adjusted dollars over the forecast period.

Near-term transit route changes are drawn from the Regional Short-Range Transit Plan, which was produced in cooperation with the region’s transit agencies. Longer-range improvements are proposed as a part of the RTP 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 2050 RTP. These transit projects also are funded with TransNet funds or other local revenue sources. Once network coding is completed, the transportation models are run for the applicable scenarios (2018, 2020, 2030, 2040, and 2050 (for informational purposes). A list of major regional transit projects included in the draft air quality conformity analysis, as well as information on phasing their implementation, is included in Table A.3, located in Appendix A.

**Trip Generation**

A trip generation analysis is the first step in the transportation modeling process. Average weekday trip ends, by all forms of transportation and starting and ending in each zone, are estimated for ten trip types:
The SANDAG regional transportation model uses a relatively high trip-generation rate for households (8.1 vehicle trips per day), which may account for possible increases in trip-making as new facilities are built. Also, the model accounts for travel diversion among facilities.

The model reduces future year person-trips by a small amount to reflect the increased use of teleworking and e-commerce. Reduction factors of 1, 3 or 5 percent were applied to selected trip purposes and land uses. Telework reduction factors depend on the likelihood that the land use type would have employee categories that could feasibly telecommute. Reduction factors start in the year 2020.

The truck model follows a process similar to the one followed by the person model. The model computes truck vehicle trips for heavy-duty trucks, including light heavy-duty, medium heavy-duty, and heavy heavy-duty trucks. The truck classifications correspond to the ARB truck classifications used in the air quality model EMFAC. Trip production and attraction rates are expressed as trips per employee, and the rates vary by employee industry category.

**Trip Distribution**

After the trip generation analysis is completed, trip movements between zones are determined using a form of the trip distribution model known as the doubly-constrained, gamma-function gravity model. Inputs to the trip distribution model include zone-level trip generation forecasts by trip type, zone-to-zone impedances, and gamma function parameters by trip type and 4D category. 4D index categories attempt to define locations by their density, diversity, distance, and urban design characteristics. A high 4D index value represents areas that would be considered...
smart growth and would result in shortened trip lengths. In this way, the model is designed to reflect changing trip patterns in response to the types of new development in land use scenarios. The model also modifies trip patterns as new roadways are added.

A truck trip distribution analysis is performed in a similar manner, but it is used to distribute vehicle-trips rather than person-trips by purpose, as in the person model. The truck model also uses different distribution parameters by vehicle type, which are not segmented by 4D category.

The model is calibrated to match observed trip length frequencies from the 2006 Travel Behavior Survey and the 2001 Caltrans Statewide Travel Survey. Zone-to-zone impedances are a composite measure of peak and off-peak travel times and costs by highway, transit, and non-motorized modes.

**Mode Choice**

At this point in the modeling process, total person-trip movements between zones are split into different forms of transportation by highway, transit, and non-motorized modes (bicycling and walking). Highway modes include drive-alone non-toll, drive-alone toll, shared-ride non HOV/non-toll, shared-ride HOV/non-toll, and shared-ride HOV/toll. Nine transit modes differentiate transit trips by three ride modes (rail, BRT, and bus) and three access modes (walk, drive, and drop-off). The mode choice model is designed to link mode use to demographic assumptions, highway network conditions, transit system configuration, land use alternatives, parking costs, transit fares, and auto operating costs. Trips between zone pairs are allocated to modes based on the cost and time of traveling by a particular mode, compared with the cost and time of traveling by other modes. For example, vehicle-trips on a congested route would be more likely to be diverted to light rail than vehicle-trips on an uncongested freeway.

Income level also is considered, because lower-income households tend to own fewer automobiles and therefore make more trips by transit and carpooling. People in higher income households tend to choose modes based on time and convenience rather than cost. The mode choice model is calibrated using 1995 and 2006 Travel Behavior Survey trip tables by mode and income, as well as 2001-2003 Regional Transit Survey transit trip characteristics. Regional-level Census 2000 work-trip mode shares also were used to fine tune mode-share estimates.

Highway and transit travel times reflect highway congestion effects from the final iteration of the feedback loop. The model produces a.m. peak, p.m. peak, and off-peak period trip tables for vehicles and transit riders. The a.m. peak period is from 6 to 9 a.m. and the p.m. peak period is from 3 to 6 p.m. The off-peak period covers the remaining 18 hours of the day.

**Highway and Transit Assignment**

Highway assignment produces traffic-volume estimates for all roadway segments in the system. These traffic volumes are an important input to emissions modeling. Similarly, transit trips are assigned to transit routes and segments.

**Highway**

SANDAG loads traffic using TransCAD’s “Multimodal Multiclass Assignment” function. Before loading the traffic onto the network, the three truck modes are combined with the five passenger vehicle
modes. Multi-class assignment allows SANDAG to assign the eight vehicle modes (as defined in the highway network section) 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 a.m. peak, p.m. peak, and off-peak periods. 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.

Model accuracy is assessed by comparing model estimated traffic volumes with actual traffic counts obtained through the SANDAG traffic monitoring program and the highway performance monitoring system estimates of Vehicle Miles of Travel (VMT).

After completing the highway assignments, additional processing is needed. Adjustments are made for calibration error volume, HOV/managed lane volume, bus volumes, hourly distribution factors, Level of Service, and travel time.

Transit
For transit assignment, TransCAD software assigns TAP-to-TAP transit trips to the network. Eight separate transit assignments are produced for peak and off-peak periods, walk and auto access, and local bus and premium service. These individual assignments are summed to obtain total transit ridership forecasts.

Before assigning transit trips, external transit trips coming into San Diego from outside the region need to be added to the internal transit trips estimated by the mode choice model. Currently, few transit trips enter from the north or east. However, more than 20,000 transit trips cross the Mexican border each day. To account for these trips, an external transit trip table for the base year is developed from on-board transit ridership surveys and factored to future years based on border crossing trends.

For accuracy, transit ridership forecasts from the transit assignment model are compared with transit counts from the SANDAG transit passenger counting program to determine whether transit modeling parameters need to be adjusted.

Some of these comparisons of model-estimated boardings with actual boardings include:

- System-level boardings, which may reveal transfer rate problems and lead to changes in the transfer wait time factor in the mode choice model.
- Boardings by mode, which may reveal modal biases and lead to changes in mode choice modal constants.
- Boardings by frequency of service, which may show biases that lead to changes in the first wait factor in the mode choice model.
- A Centre City screenline crossing, which may lead to changes in parking costs and boardings by stop location, which may indicate problems with specific generators, such as a university.

Post-TransCAD Processing

Standard TransCAD output needs to be reformatted and adjusted to be useful for emissions modeling. Several routines and computer programs have been written to accomplish the following major functions:

- Correcting link-specific traffic volume forecasts for calibration errors.
- Adding in estimated travel on roads not in the transportation modeling process.
- Computing link speeds based on corrected link volumes, highway capacity manual relationships between congestion and speed (or signal delay).
- Splitting link volumes into heavy-duty truck and other traffic to obtain speed distributions by vehicle class.
- Preparing a data set that contains total VMT, number of trip starts, and VMT by speed category by time of day for each vehicle class.

The travel demand modeling procedures used for the 2050 RTP differ from previous modeling procedures in three key ways, as described in the previous sections. To summarize, first a truck model is run parallel to the four-step model. Truck origin-destination trip tables are merged with vehicle trip tables for highway assignment and air quality procedures. Second, new inputs are used, including the recently completed 2010 Gateway Freight Forecast (a forecast of freight traffic in the region,) 2002 Freight Analysis Framework data, and the 2050 Regional Growth Forecast projections. Third, a 4D (density, diversity, distance, and urban design characteristics) category is used as an input into the trip distribution model. These new inputs and procedures have contributed to changes in output for emissions modeling.

Motor Vehicle Emissions Modeling

Emissions Model

In November 2006, the CARB released Emission FACtors (EMFAC) 2007, an emissions inventory model that calculates emissions for motor vehicles operating in California. It is an integrated model that combines emission rate data with vehicle activity to calculate regional emissions. The U.S. EPA approved EMFAC 2007 for use in conformity determinations on January 18, 2008. The EMFAC 2007 model supports the calculation of emissions for the Burden mode. The Burden mode is used for calculating regional emission inventories. In this mode, the model reports total emissions as tons per day for each pollutant, by vehicle class, and the total vehicle fleet. The Burden mode uses emission factors that have been corrected for ambient conditions and speeds combined with vehicle activity to calculate emissions in tons per day. Vehicle activity includes the number of vehicles, daily VMT, and the number of daily trips.

The air quality analysis of the 2050 RTP was conducted using EMFAC 2007’s Burden mode. Projections of daily regional emissions were prepared for reactive organic gases (ROG), nitrogen oxides (NOx), and CO.
On-road motor vehicle emissions are attributed to several different processes:

- Starting exhaust
- Running exhaust
- Idle exhaust (calculated for heavy-duty trucks only)
- Resting and diurnal evaporation
- Running losses
- Hot soak evaporation

Emission factors vary by vehicle class, fuel usage, and technology. The fuels modeled are gasoline, diesel, and electricity-powered vehicles. Technology categories can be grouped into catalyst, non-catalyst, and diesel. Thirteen vehicle classes are modeled:

- Passenger car
- Two types of light-duty trucks
- Medium-duty truck
- Two types of light heavy-duty trucks
- Medium heavy-duty truck
- Heavy heavy-duty truck
- Line-haul vehicle
- Urban bus
- School bus
- Motorcycle
- Motor home

Emission factors for processes that vary by temperature (i.e., starting exhaust, hot soak, and running exhaust) are broken down further by specified temperature ranges. Exhaust emission factors also are broken down by speed range.

**Regional Emissions Forecasts**

Regional transportation forecasts were initiated in December 2010. Output from the TransCAD model was then reformatted and adjusted to be useful for emissions modeling.

**Eight-Hour Ozone Standard**

Effective June 9, 2008, the U.S. EPA found the eight-hour ozone budgets included in the Eight-Hour Ozone Attainment Plan for San Diego County adequate for transportation conformity purposes. In December 2010, SANDAG prepared countywide forecasts of average weekday ROG and NOx emissions for 2018, 2020, 2030, 2040, and 2050 (for informational purposes) using the EMFAC 2007 model. ROG and NOx emissions are based on the summer season.

The analysis years were selected to comply with 40 CFR Sections 93.106(a)(1) and 93.118(a) of the Transportation Conformity Rule and the approved methodology for conducting the 2050 RTP Air Quality Conformity Analysis, which shortened the conformity horizon to 2040 and requires an informational analysis of the plan horizon year (2050). According to these sections of the Conformity Rule, the first horizon year (2018) must be within ten years from the base year used to validate the regional transportation model (2008), the last horizon year must be the last year of the transportation plan’s forecast period, or in the case of the 2050 RTP, the last year of the conformity determination (2040), and the horizon years may be no more than ten years apart (2020 and 2030).
CO Standard

CO regional emissions were projected for 2018, 2020, 2030, 2040, and 2050 (for informational purposes) for the conformity determination of the 2050 RTP. CO emissions are based on the winter season.

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 2050 RTP, the plan must comply with the emissions analysis described in the Regional Emissions Forecast section. Table B.2 shows that projected ROG and NOx emissions from the 2050 RTP are below the ROG and NOx budgets.

Adjustment factors for ROG and NOx were provided by the ARB to account for recently-adopted emission control programs not reflected in EMFAC 2007 and other corrections. Table B.3 includes the adjustment factors by analysis year.

Table B.4 shows that projected CO emissions from the 2050 RTP are below the 2003 CO budget of 730 tons per day.

Exempt Projects

Section 93.126 of the Transportation Conformity Rule exempts certain highway and transit projects from the requirement to determine conformity. The categories of exempt projects include safety, mass transit, air quality (ridesharing and bicycle and pedestrian facilities), and other (such as planning studies).

Table B.5 illustrates the exempt projects considered in the 2050 Revenue Constrained RTP. 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.2 – 2050 Revenue Constrained RTP – Air Quality Conformity Analysis for Eight-Hour Ozone (EMFAC 2007)

<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>SIP Emissions Budget Tons/Day</th>
<th>NOx Emissions Tons/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>14,778</td>
<td>88,177</td>
<td>53</td>
<td>26</td>
<td>98</td>
<td>43</td>
</tr>
<tr>
<td>2020</td>
<td>14,978</td>
<td>86,334</td>
<td>53</td>
<td>24</td>
<td>98</td>
<td>39</td>
</tr>
<tr>
<td>2030</td>
<td>16,381</td>
<td>100,426</td>
<td>53</td>
<td>20</td>
<td>98</td>
<td>31</td>
</tr>
<tr>
<td>2040</td>
<td>17,654</td>
<td>108,197</td>
<td>53</td>
<td>18</td>
<td>98</td>
<td>28</td>
</tr>
<tr>
<td>2050(1)</td>
<td>18,956</td>
<td>118,317</td>
<td>53</td>
<td>19</td>
<td>98</td>
<td>31</td>
</tr>
</tbody>
</table>

(1) The emission data for 2050 was prepared using 2040 emission factors, as emission factors for 2050 are not available. The 2050 RTP air quality conformity analysis was conducted for the years 2011 – 2040. Emissions data for 2050 is included for informational purposes only.

Note: Emissions budgets are 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.
### Table B.3 – EMFAC 2007 Adjustment Factors

<table>
<thead>
<tr>
<th>Year</th>
<th>ROG Adjustment Factor (Tons/Day)</th>
<th>NOx Adjustment Factor (Tons/Day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>0.25</td>
<td>2.48</td>
</tr>
<tr>
<td>2020</td>
<td>0.33</td>
<td>2.40</td>
</tr>
<tr>
<td>2030</td>
<td>0.71</td>
<td>2.80</td>
</tr>
</tbody>
</table>

Note: Adjustment factors were provided by the ARB. The tons listed are subtracted from the EMFAC 2007 output of tons per day for ROG and NOx.

### Table B.4 – 2050 Revenue Constrained RTP Air Quality Conformity Analysis for Carbon Monoxide (EMFAC 2007)

<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>2018</td>
<td>14,778</td>
<td>88,177</td>
<td>730</td>
<td>237</td>
</tr>
<tr>
<td>2020</td>
<td>14,978</td>
<td>86,334</td>
<td>730</td>
<td>207</td>
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<tr>
<td>2030</td>
<td>16,381</td>
<td>100,426</td>
<td>730</td>
<td>160</td>
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<tr>
<td>2040</td>
<td>17,654</td>
<td>108,197</td>
<td>730</td>
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<tr>
<td>2050 (2)</td>
<td>18,956</td>
<td>118,317</td>
<td>730</td>
<td>157</td>
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</table>

(2) The emission data for 2050 was prepared using 2040 emission factors, as emission factors for 2050 are not available. The 2050 RTP air quality conformity analysis was conducted for the years 2011 – 2040. Emissions data for 2050 is included for informational purposes only.

Note: Emissions budgets for the San Diego region are from 2004 Revision to California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for Ten Federal Planning Areas (Approved as a SIP revision in January 2006).
Table B.5 – Exempt Projects

<table>
<thead>
<tr>
<th>Project/Program Description</th>
<th>Project/Program Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bikeway, Rail Trail, and Pedestrian Projects</strong></td>
<td><strong>Bikeway, Rail Trail, and Pedestrian Projects (Cont.)</strong></td>
</tr>
<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>North Park – Centre City Bicycle Corridor</td>
</tr>
<tr>
<td>Central Coast Bicycle Corridor</td>
<td>Otay Port of Entry Pedestrian/Bicycle Facilities</td>
</tr>
<tr>
<td>Chula Vista Greenbelt</td>
<td>Park Boulevard Bicycle Connector</td>
</tr>
<tr>
<td>City Heights – Old Town Bicycle Corridor</td>
<td>Poway Bicycle Loop</td>
</tr>
<tr>
<td>Clairemont – Centre City Bicycle Corridor</td>
<td>San Diego Regional Bicycle Plan</td>
</tr>
<tr>
<td>Coastal Rail Trail</td>
<td>San Diego River Multi-Use Bicycle and Pedestrian Path</td>
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<tr>
<td>East County Northern Bicycle Loop</td>
<td>San Luis Rey River Trail</td>
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<tr>
<td>East County Southern Bicycle Loop</td>
<td>Santee – El Cajon Bicycle Corridor</td>
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<tr>
<td>El Camino Real Bicycle Corridor</td>
<td>SR 52 Bikeway</td>
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<tr>
<td>Encinitas – San Marcos Bicycle Corridor</td>
<td>SR 56 Bikeway</td>
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<tr>
<td>Escondido Creek Bike Path Bridge and Bikeway</td>
<td>SR 56/Black Mountain Road Bikeway Interchange</td>
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<td>Gilman Bicycle Connector</td>
<td>SR 125 Bicycle Corridor</td>
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<td>Hillcrest – El Cajon Bicycle Corridor</td>
<td>SR 905 Bicycle Corridor</td>
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<td>Imperial Beach Bicycle Connector</td>
<td>Sweetwater River Bikeway</td>
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<td>Inland Rail Trail</td>
<td>Tecate International Border Crossing Facilities, FacPedestrian</td>
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<tr>
<td>Interstate 8 Bicycle Corridor</td>
<td>Ted Williams Parkway Pedestrian Bridge at Shoal Creek</td>
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<tr>
<td>Interstate 15 Bicycle Bikeway</td>
<td>Third Avenue Bicycle and Pedestrian Access</td>
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<td>Interstate 805 Bicycle Corridor</td>
<td>Vista Way Bicycle Connector</td>
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<td>Kearny Mesa – Beaches Bicycle Corridor</td>
<td>West Bernardo Bike Path</td>
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<td>Kensington – Balboa Park Bicycle Corridor</td>
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<td>Project/Program Description</td>
<td>Project/Program Description</td>
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<tr>
<td>Safety Improvement Program</td>
<td>Transportation Management Systems</td>
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<td>Automated Traveler Information System (ATIS)</td>
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<td>Emergency Response</td>
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<td>FasTrak®</td>
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<td>Freeway Service Patrol</td>
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<td>Safety Improvement Program</td>
<td>IntelliDriveSM Roadside Devices</td>
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<td>Joint Transportation Operations Center (JTOC)</td>
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<td>San Ysidro Intermodal Transit Center/Terminal</td>
<td>Trolley Fiber Communication Network</td>
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<td>Universal Transportation Account</td>
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<tr>
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<td>Various Traffic Signal/Prioritization</td>
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</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 ridesharing, transit service improvements, traffic-flow improvements, and bicycle 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, bicycling, and traffic-flow improvements continue to be funded, although the level of implementation established in the SIP has been surpassed.

Interagency Consultation Process and Public Input

The consultation process followed to prepare the Air Quality Conformity Analysis for the 2050 RTP complies with the San Diego Transportation Conformity Procedures adopted in July 1998. In turn, these procedures comply with federal requirements under 40 CFR 93. Interagency consultation involves SANDAG (as the MPO for San Diego County), the APCD, Caltrans, the CARB, the U.S. DOT, and the U.S. EPA. In addition pursuant to Government Code Section 14522.2, the methodology and key assumptions of travel demand models are provided in Technical Appendix 15.

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 the circulation of supporting materials prior to formal adoption.

SANDAG consulted on the development of the Air Quality Conformity Analysis of the 2050 RTP at meetings of the San Diego Region CWG, as follows:

- On August 4, 2010 SANDAG staff presented the RTP process and timeline, as well as the schedule for the development of the 2050 RTP. Staff also presented information on some of the RTP conformity procedure, including the Public Involvement Plan, pollutant budgets and Transportation Control Measures. Additionally, staff presented the 2050 RTP Draft Proposed Conformity Analysis Methodology for review and comment by the CWG and requested any comments in writing by August 20, 2010.

- On September 1, 2010, SANDAG presented information on the 2050 Growth Forecast and the 2050 RTP Travel Demand Model. Staff also presented once more the 2050 RTP Draft Proposed Conformity Analysis Methodology, to provide the group with another opportunity to review the information and provide any comments. No comments were received.
On September 17, 2010, the SANDAG Transportation Committee accepted for review and distribution the draft proposed methodology for conducting the air quality conformity determination for the 2050 RTP for a 30-day comment period.

On October 6, 2010, SANDAG staff presented information on the conformity criteria and procedures for the development of the 2050 RTP, including: 2050 RTP public outreach, latest emissions model, and draft revenue constrained financial assumptions.

On October 15, 2010, the SANDAG Transportation Committee held a public hearing to solicit public comments on shortening the conformity timeline and on the proposed methodology for the regional emissions analysis. No comments were received at the hearing or in writing.

On November 19, 2010, the SANDAG Board of Directors approved the 2050 RTP Conformity Analysis Methodology for use in the Draft 2050 RTP and its air quality conformity determination.

On December 17, 2010, the SANDAG Board of Directors selected the Revenue Constrained Transportation Network to be included in the Draft 2050 RTP and its Air Quality Conformity Analysis.

SANDAG staff initiated the air quality conformity modeling for the Draft 2050 RTP on December 17, 2010.

At the January 5, 2011, CWG meeting, SANDAG staff presented the 2050 RTP revenue constrained and exempt project lists.

On February 25, 2011, the Draft 2050 RTP Air Quality Conformity Analysis was released to the CWG for a 30-day review.

At the March 2, 2011, CWG meeting, the Draft 2050 RTP Air Quality Conformity Analysis was discussed.

On April 22, 2011, the SANDAG Board of Directors is scheduled to release the Draft 2050 RTP, including its air quality conformity analysis, for a 55-day public review period.

Members of the public are welcome to provide comments at meetings of the San Diego Region CWG, the Transportation Committee, and the SANDAG Board of Directors.
### 2050 RTP Air Quality Conformity Schedule

**May 4, 2011**

<table>
<thead>
<tr>
<th>Date</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 22, 2011</td>
<td>Board Meeting: Board releases Draft 2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP) (SCS) and Air Quality Conformity (AQS) for a public comment period closing on June 30, 2011</td>
</tr>
<tr>
<td>May 2011</td>
<td>Public Notice for Draft 2050 RTP, Air Quality (AQ), Environmental Impact Report (EIR) and Public Hearings</td>
</tr>
<tr>
<td>Late May 2011</td>
<td>Release draft RTP EIR for 45-day public review period</td>
</tr>
<tr>
<td>June 2011</td>
<td>Hold Public Hearings (7) – Board of Directors (6/10), Regional Planning Stakeholders Working Group (SWG) meeting (6/21) and Subregional Workshops (5)</td>
</tr>
<tr>
<td>June 30 2011</td>
<td>Close of public comment period for Draft 2050 RTP</td>
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<tr>
<td>Early July 2011</td>
<td>Modeling of draft Final RTP Air Quality Conformity (AQC)</td>
</tr>
<tr>
<td>Mid-July 2011</td>
<td>Release Revised AQC to CWG for 30-day review period</td>
</tr>
<tr>
<td>Early August 2011</td>
<td>Release Revised AQC for 30-day public review period</td>
</tr>
<tr>
<td>Mid-August 2011</td>
<td>Close of CWG Review period</td>
</tr>
<tr>
<td>Early September 2011</td>
<td>Close of Public AQC Review Period</td>
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<tr>
<td>September 2, 2011</td>
<td>Transportation Committee Meeting: Responses to RTP Comments and Proposed Changes to the Draft RTP</td>
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<tr>
<td>September 9, 2011</td>
<td>Board Meeting: Responses to RTP Comments and Proposed Changes to the Draft RTP</td>
</tr>
<tr>
<td>October 7, 2011</td>
<td>Transportation Committee Meeting: Recommend adoption of Final 2050 RTP/EIR</td>
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<tr>
<td>October 28, 2011</td>
<td>Board Meeting: Adopt Final 2050 RTP/SCS, make a finding of conformity and certify the EIR</td>
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