SAN DIEGO CONFORMITY WORKING GROUP

The San Diego Conformity Working Group (CWG) may take action on any item appearing on this agenda.

Wednesday, November 4, 2009

10:30 a.m. to 12 noon

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

Staff Contact:  Andrea Hoff
(619) 699-1983
ahof@sandag.org

AGENDA HIGHLIGHTS

• 2008 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP) AMENDMENT NO. 16 REGIONAL EMISSIONS ANALYSIS AND MODELING PROCEDURES (DRAFT)

• FINAL AREA DESIGNATIONS FOR THE 24-HOUR FINE PARTICLE STANDARD ESTABLISHED IN 2006

Please contact Andrea Hoff prior to the meeting if you wish to participate by conference call.

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<table>
<thead>
<tr>
<th>ITEM #</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>INTRODUCTIONS</td>
</tr>
<tr>
<td>+2.</td>
<td>SUMMARY OF OCTOBER 7, 2009, MEETING</td>
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<tr>
<td></td>
<td>Meeting summary of the October 7, 2009, Conformity Working Group meeting (CWG). CWG is asked to approve the meeting summary.</td>
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<td>3.</td>
<td>PUBLIC COMMENTS/COMMUNICATIONS</td>
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<td>Members of the public will have the opportunity to address the Working Group during this time.</td>
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<tr>
<td>+4.</td>
<td>2008 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP) AMENDMENT NO. 16 REGIONAL EMISSIONS ANALYSIS AND MODELING PROCEDURES (DRAFT)</td>
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<td>At the October 7, 2009, CWG meeting, the group discussed the conformity criteria and procedures to be followed to determine conformity of the 2008 RTIP Amendment No. 16 and to redetermine conformity of the 2030 Regional Transportation Plan (RTP). The Draft Conformity Analysis document is being released to the CWG for a 30-day comment period starting on October 29, 2009. The CWG is asked to review the draft document and provide comments at the meeting. Additional comments should be provided to SANDAG, in writing, by the close of the comment period on November 30, 2009. The Draft 2008 RTIP Amendment No. 16 and its draft conformity analysis will be presented to the Board of Directors on January 22, 2010.</td>
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<td>5.</td>
<td>EMFAC 2010 DEVELOPMENT</td>
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<td>California Air Resources Board (ARB) staff will provide CWG with an update on the development of the next generation of EMFAC software.</td>
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<td>6.</td>
<td>EIGHT-HOUR OZONE STANDARD RE-CLASSIFICATION UPDATE</td>
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<td>Staff from U.S. Environmental Protection Agency (EPA) and the San Diego Air Pollution Control District will provide an update on the provision to revise the Former 1-Hour Ozone Standard and its significance to the San Diego region.</td>
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+7. FINAL AREA DESIGNATIONS FOR THE 24-HOUR FINE PARTICLE STANDARD ESTABLISHED IN 2006

On October 8, 2009, the EPA issued final area designations for the 24-hour national air quality standards for fine particulate matter (PM2.5). EPA has identified areas as either nonattainment, unclassifiable/attainment, or unclassifiable. The San Diego air basin is designated as unclassifiable/attainment.

8. ADJOURNMENT AND NEXT MEETING

The next meeting of the CWG is scheduled for Wednesday, December 2, 2009, from 10:30 a.m. to 12 noon, at SANDAG.

+ next to an item indicates an attachment
November 4, 2009

SUMMARY OF OCTOBER 7, 2009, MEETING

Item #1: Introductions

Self-introductions were made. See attached attendance list.

Item #2: Summary of August 12, 2009, Meeting

Rachel Kennedy, SANDAG, asked the San Diego Conformity Working Group (CWG) to review the meeting summary. One correction was made: Carl Selnick, San Diego Air Pollution Control District (APCD), noted he was not listed on the attendee list as having called in.

Item #3: Public Comments/Communications

There were no public comments made.

Item #4: Updating the SANDAG Overall Public Participation Plan

Anne Steinberger, SANDAG, provided information about the Public Participation Plan (PPP) and its update. This plan establishes a process for communicating with and obtaining input from the public concerning agency programs, projects, and program funding.

SANDAG is securing input from individuals, organizations, agencies, and others in the update of the PPP. Staff will solicit input on the elements of the plan to help guide its update. A draft of the PPP will be available on the SANDAG Web site when it is released by the Board of Directors – likely on October 9, 2009 - for a 45-day public comment period. At that time, a link to the PPP will be sent out to stakeholders, including the CWG.

Development of the PPP began with a survey, which asked people how they would like to participate in regional planning outreach (e.g., Stakeholders Working Group (SWG), Internet notices, etc.). The results of the survey, as well as input received from the SWG, Policy Advisory Committees, and public events were incorporated into the draft PPP. During the 45-day comment period, SANDAG seeks to build awareness about the PPP. SANDAG staff will return to the SWG twice, and in December return to the Policy Committees and Board of Directors in anticipation of final approval.

The strategies and tactics outlined in the PPP guide the agency's outreach efforts for transit, highway, smart growth, environmental, planning, growth forecasts, the Regional Transportation Plan, Regional Transportation Improvement Program, Tribal Consultation, and other initiatives.
The Plan addresses Title 6 issues and other regulatory guidelines and introduces use of social media and the Web.

Dennis Wade, California Air Resources Board (CARB), asked if the SANDAG PPP addresses the requirements of Senate Bill 375 (SB 375).

Ms. Steinberger stated that the PPP does address new requirements of SB 375 and serves as a foundation for the Sustainable Communities Strategy called for in the bill.

Elisa Arias, SANDAG, asked how many surveys were received.

Ms. Steinberger stated that approximately 1,100 survey responses were received through the Web and community outreach. The survey was available in both English and Spanish.

Item #5: 2008 Regional Transportation Improvement Program (RTIP) Amendment No. 16 Conformity Criteria and Procedures Discussion

Rachel Kennedy, SANDAG, provided information on the conformity criteria and procedures to be followed to determine conformity of the 2008 RTIP Amendment No. 16 and to redetermine conformity of the 2030 Regional Transportation Plan (RTP). Members of SANDAG staff made brief presentations on various topics (each detailed below).

Travel Demand Model

Elisa Arias, SANDAG, provided information about the SANDAG travel demand model used in conformity. The modeling procedures for this amendment are similar to those used for the 2030 RTP Update. SANDAG follows a four-step transportation modeling process consisting of trip generation, trip distribution, mode choice, and assignment to forecast travel activity in the San Diego region. A final pass is made through the mode choice and assignment steps to reflect congested travel conditions in mode decision-making. TransCAD is the transportation planning computer package used by SANDAG in combination with a geographic information system (GIS) ArcInfo.

A number of data files and surveys are used to calibrate the transportation models, including:

- 1995 Travel Behavior Survey
- 2001 Caltrans Statewide Travel Survey
- 2001-2003 San Diego Regional Transit Survey
- External Trip Surveys
- Traffic Generation Studies
- 1991 San Diego Visitor Survey
- 2000 Census Transportation Planning Package
In addition to surveys, there are three major inputs to the transportation models:

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

Trip generation is the first step in the transportation modeling process. Average weekday trip ends by all forms of transportation starting and ending in each zone are estimated for ten trip types. The model computes person trips, which are distributed between zones, and are split into different forms of transportation by highway, transit, and non-motorized modes (bicycling and walking).

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.

Model accuracy is assessed by comparing model estimated traffic volumes with actual traffic counts obtained through the SANDAG traffic monitoring program and highway performance monitoring system estimates of vehicle miles of travel (VMT). Transit ridership forecasts from the transit assignment model are compared with transit counts from the SANDAG transit passenger counting program.

Standard outputs from the model need to be reformatted and adjusted to be useful for emissions modeling; this process is called Post-TransCAD Processing. This includes 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.

**Regional Growth Forecast**

Ms. Arias provided information about the Regional Growth Forecast, which is the 2030 Regional Growth Forecast Update, accepted by the SANDAG Board of Directors on September 8, 2006, for use in the 2030 RTP.

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.

The 2030 Regional Growth Forecast Update is based solely on the adopted general plans and community plans and policies of the 18 cities. For the unincorporated area, the forecast is based on the most recent (June 2005) version of the County’s GP2020 plan update, as directed by the Board of Supervisors.
The Growth Forecast projects a total of 3,984,000 people in the year 2030 and 1,913,000 jobs.

**Public Involvement and Outreach**

Sookyung Kim, SANDAG, provided information about public involvement and outreach as it relates to the RTIP. SANDAG follows an overall PPP, which contains a section that specifically addresses the RTIP. SANDAG follows an amendment process that allows four amendments each year, including a 15-day notification period concurrent with the State public notice period. The Transportation Committee holds a public hearing and approves amendment adoptions.

Ms. Kennedy stated that in conjunction with the public outreach for the amendment process, a solicitation for project updates was sent out in advance to local jurisdictions for the current amendment.

**Financial Assumptions**

Ms. Kim outlined the various financial assumptions used for the 2008 RTIP. The assumptions being used are alike to those that were approved by the Board in July 2008, and by the federal government for the FSTIP in November 2008. The specifics are outlined in Chapter 4 of the final 2008 RTIP and, for the most part, the assumptions have not changed. Some highlights include the following.

**Financial Capacity**

As a nonattainment area, the SANDAG RTIP is required to be a revenue-constrained document with programmed projects based upon committed funding for the first two fiscal years of the RTIP period and/or reasonably available for the third fiscal year. Funding assumptions are generally based upon: (1) authorized or appropriated levels of federal and state funding from current legislation; (2) conservative projections of future federal and state funding, assuming a continuation of current funding levels; (3) the most current revenue forecasts for TransNet, the local transportation sales tax program; and (4) the planning and programming documents of the local transportation providers.

**Inflation Assumptions**

The projects to be programmed in the 2008 RTIP, covering fiscal years 2009 to 2013, are expressed in future dollars. That is, they have been escalated based upon anticipated inflation and other factors to the expected year of obligation or expenditure. For the State Transportation Improvement Program (STIP) and State Highway Operation and Protection Program (SHOPP), the revenues and program are based on the 2008 Fund Estimate adopted by the California Transportation Commission (CTC) in May 2008, which documents a 3 percent escalation rate for the Transportation Improvement Fund (TIF). For the major TransNet projects, SANDAG used 3.6 percent rate, which is a blended rate for both the right-of-way and construction phase based on historical trends. This rate is also consistent with that used in the 2030 RTP.
Program Revenues

Revenue sources have been grouped into different categories – federal, state, and local:

Federal Revenues include Federal Highway Administration (FHWA) revenues: Border Infrastructure Program, CMAQ/RSTP, Demonstration/High-Priority Projects, Highway Bridge Program (HBP)/Hazard Elimination Safe Routes to Schools (HES/SR2S), High-Risk Rural Roads, Highway Safety, and Transportation Enhancement, Highway Maintenance.

On the Federal Transit Administration (FTA) side, revenues include Section 5309 Fixed Guideway, New Starts, other Discretionary, Section 5307 urbanized, Section 5310, Section 5316, and Section 5317 New Freedom Program.

Since the adoption of the RTIP in July, we have also added in the federal funds under the American Recovery and Reinvestment Act revenues.

The state funds are mostly derived from the 2008 STIP and others, and those include, in addition to the STIP and SHOPP, the Freeway Service Patrol, the Proposition 1B containing various programs, State Transit Assistance Act, and the Traffic Congestion Relief Program.

Locally, there is the TransNet sales tax program, other local agency funding, private development funds, toll revenues, and the Transportation Development Act. Also included in the RTIP is innovative financing, such as Grant Anticipation Revenue Vehicle (GARVEE) bonds and issuance of long-term bonds. Private sector funding, advertising, transit fares, and other miscellaneous funds are also included.

Latest emissions model and emissions budgets

Ms. Kennedy provided information about the latest emissions model and current emissions budgets used for conformity purposes. The San Diego region is designated as a Nonattainment Area for the 8-hour Ozone Standard and a Maintenance Area for the CO Standard. The emissions modeling software used by SANDAG in conformity is EMFAC2007 and the budgets provided using that model were found adequate for use in conformity by Environmental Protection Agency (EPA) for the 8-hour ozone standard. Modeling will be done for the years 2009, 2010, 2020, and 2030. These analysis years are selected to comply with Sections 93.106(a) and 93.118(a) of the Transportation Conformity Rule. The emissions modeling results will be shared with the CWG at a future meeting.

CO model runs include 2010, 2018 (interpolated), 2020, and 2030. CO emissions are based on the winter season, while the modeling for the 8-hour ozone standard (ROG and NOX) is done in the summer season.
Exempt Project List

Ms. Kennedy handed out the list of exempt projects to be included in the RTIP amendment. The list contains different programs and projects that are exempt, including bikeway, rail trail, and pedestrian projects; regionwide traffic management; safety improvement program projects (i.e., bridge replacements); transportation demand management (includes the regional vanpool program); and transportation management projects (i.e., ramp meters and ITS).

Ms. Arias asked if the list has the same projects as the 2008 RTIP or if Amendment No. 16 has any new exempt projects.

Ms. Kennedy stated that staff will update the list after December 4, 2009 (the deadline for submitting exempt projects). The revised list will be distributed to the CWG at that time. Based on the call for projects so far, there does not seem to be any new types of exempt projects.

List of Projects to be Included in Amendment No. 16

Ms. Kennedy handed out a list of the capacity-increasing projects that will be included in Amendment No. 16.

Mike Brady, Caltrans Headquarters, asked if the list consisted mostly of preliminary engineering (PE) projects and changes to project descriptions.

Ms. Kennedy stated that some of the projects are considered PE only, while others have both PE and right-of-way activities.

Mr. Brady asked for clarification about the revised project descriptions and if the changes would lead to new modeling.

Ms. Kim stated that there are some changes to projects to revise the open-to-traffic dates, but no major changes that would require substantial rework of the travel demand model.

Transportation Control Measures

Ms. Kennedy stated that the four federally-approved transportation control measures in the San Diego region have been fully implemented.

Dennis Wade, CARB, asked about the schedule for the amendment.
Ms. Kennedy outlined the following schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>Task</th>
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<tbody>
<tr>
<td>9/11/2009</td>
<td>Call for Projects</td>
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<tr>
<td>9/30/2009</td>
<td>CI Projects Due in ProjectTrack</td>
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<tr>
<td>10/7/2009</td>
<td>CWG Meeting - Conduct Interagency Consultation</td>
</tr>
<tr>
<td>10/23/2009</td>
<td>Modeling Complete</td>
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<td>10/28/2009</td>
<td>Draft RTIP Conformity Document Provided to CWG for 30-day Review</td>
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<td>11/4/2009</td>
<td>Discuss Draft RTIP Conformity Document at CWG Meeting</td>
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<td>11/26/2009</td>
<td>End 30-day CWG Comment Period</td>
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<td>12/4/2009</td>
<td>Incorporate CWG Comments into Revised Draft</td>
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<td>12/18/2009</td>
<td>Transportation Committee Meeting and Public Hearing</td>
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<tr>
<td>1/6/2009</td>
<td>Close of Public Comment Period</td>
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<tr>
<td>1/22/2010</td>
<td>Board Adoption</td>
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Mr. Wade requested that the schedule be sent out to the CWG.

**Item #6: EMFAC 2010 Development**

Dennis Wade, CARB, stated that development of the EMFAC 2010 model continues. There are internal discussions underway regarding revisions to EMFAC and provision of a model with the latest planning assumptions. CARB has received requests from SANDAG and other agencies to consider implications of the out year of the model for conformity.

The draft model is scheduled for release in mid-2010 and subsequent submission to EPA by the end of 2010.

**Item #7: 8-Hour Ozone Standard Reclassification Update**

John Kelly, EPA, provided an update on the 8-hour Ozone rulemaking and its significance to the San Diego region. EPA Headquarters is beginning to review areas that preliminarily may not have met their moderate deadlines. The federal register proposal for making the conversions, or ‘bump-overs,’ from Subpart 1 to Subpart 2, dealt with areas in the county, all of which were either marginal or moderate. Numerous marginal areas had not met their 2007 attainment date and they were being forced to bump up to moderate. If action on this proposed rule is delayed, 2009 quality assured data will become available and it will be difficult to classify an area as moderate if the deadline has passed. It seems likely that San Diego will not be able to stay with the moderate classification.
There is not a signature date at this time and the source of the delay at headquarters is likely due to competing priorities.

**Item #8: Other Business**  
Rachel Kennedy, SANDAG, stated that she would be taking an extended leave through March, and Andrea Hoff and Elisa Arias would be facilitating the CWG meetings during her absence.

**Item #11: Next Meeting**  
Rachel Kennedy, SANDAG, stated that the next meeting of the CWG is scheduled for November 4, 2009, from 10:30 a.m. to 12:00 noon. Meeting materials will be sent to the group in advance.
San Diego Region Conformity Working Group
Meeting Attendance
October 7, 2009

<table>
<thead>
<tr>
<th>Name</th>
<th>Agency</th>
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<tr>
<td>Dennis Wade (phone)</td>
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<tr>
<td>Pat Landrum (phone)</td>
<td>Caltrans</td>
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<tr>
<td>Elisa Arias</td>
<td>SANDAG</td>
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<tr>
<td>Michelle Merino</td>
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<td>Andrea Hoff</td>
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<td>Sookyung Kim</td>
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<td>Anne Steinberger</td>
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<td>Carla Walecka (phone)</td>
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<td>John Kelly (phone)</td>
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<td>Deion Lin</td>
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<td>Carl Selnick</td>
<td>SDAPCD</td>
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<td>Mike Brady (phone)</td>
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FILE NUMBER 3100400

AMENDMENT NO. 16 REGIONAL EMISSIONS ANALYSIS AND MODELING PROCEDURES

BACKGROUND

The federal Clean Air Act (CAA), which was last amended in 1990, requires the United States 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 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 (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.

SANDAG and the United States 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 national ambient air quality standards.

On November 30, 2007, the SANDAG Board of Directors made a finding of conformity of the 2030 RTP: Pathways for the Future and the 2006 RTIP Amendment No. 9, and adopted the plan. The DOT made its conformity determination on December 10, 2007.

On July 25, 2008, the Board adopted the 2008 RTIP. On November 17, 2008, the DOT made a finding of conformity for the 2008 RTIP and a conformity redetermination for the 2030 Regional Transportation Plan: Pathways for the Future.

The San Diego region attained the federal 1-Hour Ozone Standard in 2001. The EPA redesignated the San Diego air basin as attainment/maintenance and approved the 1-Hour Ozone Maintenance Plan as a SIP revision, effective on July 28, 2003. On June 15, 2005, the EPA revoked the federal 1-Hour Ozone Standard after the 8-Hour Ozone Standard became applicable for conformity.
On April 15, 2004, the EPA designated the San Diego air basin as nonattainment for the new 8-Hour Ozone Standard. This designation took effect on June 15, 2004. The air basin was initially classified as a basic nonattainment area under Subpart 1 of the Clean Air Act and the maximum statutory attainment date for the 8-Hour Ozone Standard was set as June 15, 2009. However, EPA is responding to a court decision and is expected to propose that, among other areas of the country, the San Diego basic nonattainment area will be reclassified as a Subpart 2 moderate nonattainment area, with a maximum statutory attainment date of June 15, 2010. Several areas that are tribal lands in eastern San Diego County were excluded from the nonattainment designation. As shown in Figure 1, La Posta Areas #1 and #2, Cuyapaípe, Manzanita, and Campo Areas #1 and #2 are attainment areas for the 8-Hour Ozone NAAQS.
Figure 1: Eastern San Diego County Attainment Areas for the 8-Hour Ozone NAAQS
In cooperation with the San Diego APCD and SANDAG, the California Air Resources Board (CARB) developed an 8-Hour Ozone Attainment Plan, which was submitted to the EPA on June 15, 2007. The budgets in the 8-Hour Ozone Attainment Plan for San Diego County were found adequate for transportation conformity purposes by the EPA, effective June 9, 2008.

The San Diego region also has been designated by the EPA as a federal maintenance area for the Carbon Monoxide (CO) standard. On November 8, 2004, the CARB submitted the 2004 revision to the California SIP for CO to the EPA. Effective January 30, 2006, the EPA has approved this maintenance plan as a SIP revision.

TRANSPORTATION CONFORMITY: MODELING PROCEDURES

Introduction

The 2008 RTIP, including Amendment No. 16, is consistent with the 2030 RTP: Pathways for the Future. As a financially constrained plan, the 2008 RTIP only contains those major transportation projects listed in the revenue constrained 2030 RTP. Chapter 4 of the 2008 RTIP includes a detailed discussion on fiscal constraint. Conformity of the 2030 RTP expires on December 10, 2011. However, to comply with the transportation conformity rule standards, which require a redetermination of conformity within two years of new budgets, the Board approved a redetermination of conformity of the 2030 RTP: Pathways for the Future, in conjunction with the 2008 RTIP on July 25, 2008. The 2008 RTIP is being amended to include additional capacity-increasing projects and the Board will be asked to approve the 2008 RTIP Amendment No. 16, make a conformity determination for the RTIP, and redetermination for the RTP on January 22, 2010. Table 2 to Table 4 include the conformity analysis for both the 2008 RTIP, as amended, and the 2030 Revenue Constrained RTP.

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 2030 Regional Growth Forecast Update, which was accepted by the Board on September 8, 2006, for use in the 2030 RTP.

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.

The 2030 Regional Growth Forecast Update is based solely on the adopted general plans and community plans and policies of the 18 cities. For the unincorporated area, the forecast is based on the most recent (June 2005) version of San Diego County’s General Plan 2020 update, as directed by the Board of Supervisors.
In October 2009, SANDAG consulted with the San Diego Region Conformity Working Group (CWG) on the use of the 2030 Regional Growth Forecast Update for the air quality conformity analysis of the 2008 RTIP, as amended, and 2030 RTP. Previously, both DOT and EPA concurred that approved plans should be used as input in the air quality conformity process. Table 1 shows the regional population and employment growth forecast for the San Diego region through 2030.

**Table 1: San Diego Regional Population and Employment Forecast**

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<thead>
<tr>
<th>Year</th>
<th>Total Population</th>
<th>Total Employment</th>
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<tr>
<td>2004</td>
<td>3,013,014</td>
<td>1,449,349</td>
</tr>
<tr>
<td>2010</td>
<td>3,245,279</td>
<td>1,573,742</td>
</tr>
<tr>
<td>2020</td>
<td>3,635,855</td>
<td>1,741,033</td>
</tr>
<tr>
<td>2030</td>
<td>3,984,753</td>
<td>1,913,682</td>
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</table>

Source: SANDAG, September 2006

**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 the four steps, a final pass is made through the mode choice and assignment steps to reflect congested travel conditions in mode decision-making. Travel model results then are combined with additional post-process input and output functions to form the complete modeling chain.

The estimates of regional transportation-related emissions analysis 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 is the transportation planning computer package used by SANDAG to provide a framework for performing much of the computer processing involved with modeling. 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 programs manipulate data and 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 Travel Behavior Survey
- 2001 Caltrans Statewide Travel Survey
- 2001-2003 San Diego Regional Transit Survey
- External Trip Surveys
- Traffic Generation Studies
- 1991 San Diego Visitor Survey
- 2000 Census Transportation Planning Package

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 2008 RTIP, as amended, and 2030 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 2008 RTIP, as amended, and 2030 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 Federal Highway Administration functionally classified "Other Principal Arterials."

The networks also account for programs intended to improve the operation of the highway system, including high-occupancy-vehicle (HOV) lanes and ramp metering. Existing and proposed toll facilities also are modeled to reflect time, cost, and capacity effects of these facilities. The State Route (SR) 125 South, SR 11 projects, and SR 241 are the only modeled toll facilities included in 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 Interstate 5 (I-5), I-15, I-805, and SR 52. Managed lanes are defined as reversible HOV routes and HOV routes with two or more lanes in the peak direction. 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 D or better.
Based on the networks and programs described above, the transportation forecasts of the 2008 RTIP, as amended, and 2030 RTP differentiate between four highway modes:

- drive alone non-toll
- drive alone toll
- shared-ride non-HOV/non-toll
- shared-ride HOV/non-toll

SANDAG maintains a master highway network from which a specific year network, between the years 2004 (the 2030 Regional Growth Forecast Update base year) and 2030, can be built. Four networks were built and verified (2010, 2020, and 2030) for air quality conformity analyses of the 2008 RTIP, as amended, and 2030 RTP.

A list of the major highway and near-term regional arterial projects included in the conformity analysis, and their implementation phasing, is included with the draft Air Quality Conformity Determination. The RAS and Transportation Project Evaluation Criteria and Rankings are included in the 2030 RTP. 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 expires 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, which group routes with similar operating characteristics. They are:

- commuter rail
- trolley
- regional bus rapid transit (BRT)
- corridor BRT
- limited-express bus
- express bus
- local bus

BRT service would have stations similar to commuter rail and trolleys, 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 treatments. Once TransCAD transit networks have been built, TransCAD finds minimum time paths
between transit access points (TAP). 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
- mid-day local bus
- mid-day 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 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. TransCAD procedures replicate the San Diego region’s complicated fare policies, which differ between:

- buses, which collect a flat fare of between $1.00 and $4.00, depending on the type of service;
- trolleys, which charge a variable fare of between $1.25 and $3.00, depending on how many stations are traversed;
- commuter rail, which has a zone-based fare of between $4.00 and $5.50;
- proposed regional BRT routes, which are assumed to charge a distance-based fare of between $0.14 and $0.60 per mile that replicates limited-express and commuter rail fares; and
- proposed corridor BRT routes, which are assumed to use trolley station-based fares.

Fares are converted to 1999 dollars (consistent with household incomes from the 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 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 regionally significant transit projects have been included in the air quality conformity analysis of the 2008 RTIP, as amended, and 2030 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 (2010, 2020, and 2030). The air quality conformity document contains the list of major regional transit projects included in the analysis and their implementation phasing.
Trip Generation

Trip generation is the first step in the transportation modeling process. Average weekday trip ends by all forms of transportation starting and ending in each zone are estimated for ten trip types.

1. home-work
2. home-college
3. home-school
4. home-shop
5. home-other
6. work-other
7. other-other
8. serve passenger
9. visitor
10. airport

The model computes person trips, which account for all forms of transportation including automobiles, trucks, taxicabs, motorcycles, public transit, bicycling, and walking.

The trip generation model works by applying trip rates to zone-level growth forecasts. The model calculates each of the trip ends separately, as trip productions and attractions. Trip production rates are expressed as trips per household, while trip production rates vary by trip type and structure type. Trip attractions are expressed as trips per acre of nonresidential land use or trips per household. Trip attraction rates vary by trip type and land use category. The 2030 Regional Growth Forecast Update was used to produce trip generation forecasts for the years 2010, 2020, and 2030. Trip generation rates were established by utilizing data from traffic generator studies and expanding rates from the 1995 Travel Behavior Survey and 2001 Caltrans Statewide Travel Survey.

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 increased use of teleworking and e-commerce. Reduction factors of 3 percent to 5 percent were applied to selected trip purposes and land uses.

Trip Distribution

After trip generation, trip movements between zones are determined using a doubly-constrained, gamma-function gravity model form of the trip distribution 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. The model is designed to modify trip patterns in response to new development and reflects shortened trip lengths in the vicinity of smart growth, mixed-use developments. The model also modifies trip patterns as new roadways are added.

The model is calibrated to match observed trip length frequencies from the 1995 Travel Behavior Survey and 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, and shared-ride HOV/non-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 to 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 since 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 2001 Travel Behavior Survey trip tables by mode and income and 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 in the morning and the p.m. peak period is from 3 to 6 in the afternoon. The off-peak period covers the remaining 18 hours of the day. A series of mode choice model runs were performed in the course of analyzing the 2008 RTIP, as amended, and 2030 RTP through the complete modeling process.

Highway and Transit Assignment

Highway

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.

SANDAG loads traffic using the TransCAD “Multi-Modal Multi-Class Assignment” function. 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 mode-estimated traffic volumes with actual traffic counts obtained through the SANDAG traffic monitoring program and 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 (LOS), 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, over 20,000 transit trips cross the Mexican border each day. 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 to account for these trips.

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 to 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; and
- Centre City screenline crossings, 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 error;
- 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; and
- 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.

Motor Vehicle Emissions Modeling

Emissions Model

In November 2006, 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 EPA approved EMFAC 2007 for use in conformity determinations on January 18, 2008.

The EMFAC 2007 model supports 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, and the number of daily trips.

The air quality analysis of the 2008 RTIP, as amended, and 2030 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; and
- Hot soak evaporation.
Emission factors vary by vehicle class, fuel usage, and technology. The fuels modeled are gasoline, diesel, and electrically-powered vehicles. Technology categories can be grouped into catalyst, noncatalyst, 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 October 2009. Output from the TransCAD model was then reformatted and adjusted to be useful for emissions modeling.

**8-Hour Ozone Standard**

Effective June 9, 2008, the EPA found the 8-hour ozone budgets included in the 8-Hour Ozone Attainment Plan for San Diego County adequate for transportation conformity purposes. In October 2009, SANDAG prepared countywide forecasts of average weekday ROG and NOx emissions for 2010, 2020, and 2030 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. According to these sections, the first horizon year (2010) must be within ten years from the base year used to validate the regional transportation model (2004), the last horizon year must be the last year of the transportation plan’s forecast period (2030), and the horizon years may be no more than ten years apart (2020).

The Board will be asked to make a finding of conformity for the years 2010, 2020, and 2030 using EMFAC 2007. This emissions model was approved by the EPA for use in conformity findings on January 18, 2008.

**CO Standard**

CO regional emissions were projected for 2010, 2018, 2020, and 2030 for the conformity determination of the 2008 RTIP, as amended, and 2030 RTP conformity redetermination. CO emissions are based on the winter season. Regional emissions for 2018 are interpolated.

**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 2008 RTIP, as amended, and 2030 RTP, the plan must comply with the emission analysis described in the Regional Emissions Forecast section. Table 2 shows that the projected ROG and NOx emissions from the 2008 RTIP, as amended, and 2030 RTP are below the 2008 ROG and NOx budgets.

Table 2: 2008 RTIP Amendment No. 16 and 2030 Revenue Constrained RTP Air Quality Conformity Analysis for 8-Hour Ozone

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Weekday Vehicle Starts (1,000s)</th>
<th>Average Weekday Vehicle Miles (1,000s)</th>
<th>ROG</th>
<th>NOx</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>14,450</td>
<td>90,420</td>
<td>53</td>
<td>44</td>
</tr>
<tr>
<td>2020</td>
<td>16,125</td>
<td>102,203</td>
<td>53</td>
<td>28</td>
</tr>
<tr>
<td>2030</td>
<td>17,909</td>
<td>114,958</td>
<td>53</td>
<td>23</td>
</tr>
</tbody>
</table>

Note: Emissions budgets are from the 8-Hour Ozone Attainment Plan for San Diego County, which were found adequate for transportation conformity purposes by the EPA, effective June 9, 2008.
Table 3 shows that projected CO emissions from the 2008 RTIP, as amended, and 2030 RTP are below the 2003 CO budget of 730 tons per day. Adjustment factors were provided by CARB to account for recently adopted emission control programs not reflected in EMFAC 2007 and other corrections. Table 4 includes the adjustment factors by analysis year.

Table 3: 2008 RTIP Amendment No. 16 and 2030 Revenue Constrained RTP Air Quality Conformity Analysis for Carbon Monoxide

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Weekday Vehicle Starts (1,000s)</th>
<th>Average Weekday Vehicle Miles (1,000s)</th>
<th>CO SIP Emissions Budget Tons/Day</th>
<th>CO Emissions Tons/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>14,450</td>
<td>90,420</td>
<td>730</td>
<td>461</td>
</tr>
<tr>
<td>2018</td>
<td>15,790</td>
<td>99,846</td>
<td>730</td>
<td>295</td>
</tr>
<tr>
<td>2020</td>
<td>16,125</td>
<td>102,203</td>
<td>730</td>
<td>253</td>
</tr>
<tr>
<td>2030</td>
<td>17,909</td>
<td>114,958</td>
<td>730</td>
<td>194</td>
</tr>
</tbody>
</table>


Table 4: 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>2010</td>
<td>0.04</td>
<td>2.37</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 CARB. The tons listed are subtracted from the EMFAC 2007 output of tons per day for ROG and NOx.
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 5 illustrates the exempt projects considered in the 2008 RTIP, as amended, and 2030 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 5—Exempt Projects***

<table>
<thead>
<tr>
<th>Project/Program Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bikeway, Rail Trail and Pedestrian Projects</strong></td>
</tr>
<tr>
<td>Bayshore Bikeway</td>
</tr>
<tr>
<td>Cliff Street Pedestrian/Bicycle Bridge</td>
</tr>
<tr>
<td>Coastal Rail Trail</td>
</tr>
<tr>
<td>Escondido Creek Bike Path Bridge</td>
</tr>
<tr>
<td>Inland Rail Trail</td>
</tr>
<tr>
<td>Lake Hodges Bicycle-Pedestrian Bridge</td>
</tr>
<tr>
<td>Plaza Bonita Class I Bikeway</td>
</tr>
<tr>
<td>Regional Bike Locker Program</td>
</tr>
<tr>
<td>SR 56/Black Mountain Road Bikeway Interchange</td>
</tr>
<tr>
<td>Various Bicycle Master Plans</td>
</tr>
<tr>
<td><strong>Regionwide Traffic Incident Management</strong></td>
</tr>
<tr>
<td>Freeway Service Patrol</td>
</tr>
<tr>
<td><strong>Safety Improvement Program</strong></td>
</tr>
<tr>
<td>Bridge Rehabilitation/Preservation</td>
</tr>
<tr>
<td>Collision Reduction</td>
</tr>
<tr>
<td>High-Risk Roads Program</td>
</tr>
<tr>
<td>Highway Safety Improvement Program</td>
</tr>
<tr>
<td>Noise Barrier Program</td>
</tr>
<tr>
<td>Roadway/Roadside Preservation</td>
</tr>
<tr>
<td><strong>Transportation Demand Management</strong></td>
</tr>
<tr>
<td>Regional Vanpool Program</td>
</tr>
<tr>
<td>RideLink Regional Rideshare Program</td>
</tr>
<tr>
<td><strong>Transportation Management Systems</strong></td>
</tr>
<tr>
<td>Joint Transportation Operations Center (JTOC)</td>
</tr>
<tr>
<td>ITS Operations</td>
</tr>
<tr>
<td>Ramp Meters (I-5/I-805, SR 94)</td>
</tr>
<tr>
<td>Regional Fare Technology</td>
</tr>
<tr>
<td>Smart Parking Pilot Program</td>
</tr>
<tr>
<td>Traffic Management System (I-805, SR 94)</td>
</tr>
<tr>
<td>Vehicle Assist and Automation</td>
</tr>
</tbody>
</table>

* Table 5 to be updated with any new exempt projects submitted by December 3, 2009.
Implementation of Transportation Control Measures

There are four federally-approved Transportation Control Measures (TCM) 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. The list of actions that implemented the TCMs is available at SANDAG.

Interagency Consultation Process and Public Input

The consultation process followed to prepare the air quality conformity analysis for the 2008 RTIP, as amended, and 2030 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, CARB, DOT, and 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; and
3. 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 2008 RTIP, as amended, and 2030 RTP at meetings of the CWG, as follows:

- On October 7, 2009, SANDAG staff presented the schedule for the preparation of the 2008 RTIP Amendment No. 16 and criteria and procedures to be followed for its conformity analysis. Staff confirmed that a redetermination of conformity would be done for the 2030 RTP, in conjunction with the 2008 RTIP, for consistency purposes. Staff presented information on the 2030 Regional Growth Forecast Update, Transportation Control Measures, the Revenue Constrained financial assumptions, latest emissions model, and public involvement and outreach.

- On October 7, 2009, SANDAG staff presented information on the 2008 RTIP Amendment No. 16 exempt projects for interagency consultation. Staff will distribute an updated list of exempt projects to the CWG after the deadline for submission of exempt projects by local jurisdictions (December 3, 2009).
On October 29, 2009, SANDAG will release the draft air quality conformity analysis of the 2008 RTIP Amendment No. 16 to the San Diego Region CWG for a 30-day review-and-comment period. On November 4, 2009, the draft air quality analysis will be discussed at the meeting of the San Diego Region CWG, and applicable comments will be incorporated into the report.

On December 8, 2009, the draft 2008 RTIP Amendment No. 16 and its conformity determination and the 2030 RTP conformity redetermination will be released for a 30-day public review period, which will close on January 6, 2010.

The TransNet Independent Taxpayer Oversight Committee will be presented the 2008 RTIP Amendment No. 16 on January 13, 2010, for input.

The SANDAG Transportation Committee will be asked to recommend approval of the 2008 RTIP Amendment No. 16 and its conformity determination to the Board on January 15, 2010.

The Board will be asked to approve the 2008 RTIP Amendment No. 16 and its conformity determination at its January 22, 2009, meeting.

Members of the public are welcomed to provide comments at meetings of the CWG, the Transportation Committee, and the Board.
Fact Sheet — Final Area Designations for the 24-hour Fine Particle Standard Established in 2006

**ACTIONS**

- On October 8, 2009, the Environmental Protection Agency (EPA) issued final area designations for the 24-hour national air quality standards for fine particulate matter (PM$_{2.5}$). EPA has identified areas as either "nonattainment", "unclassifiable/attainment", or "unclassifiable". EPA revised the 24-hour fine particle standards to 35 micrograms per cubic meter ($\mu g/m^3$) in 2006.

- Today's action designates 31 areas, composed of 120 full and partial counties, as "nonattainment areas." These areas will need to develop and implement plans to reduce pollution to meet the 24-hour PM$_{2.5}$ standards. Twenty one Tribes are located within the boundaries of these nonattainment areas. EPA based the designations on the most recent set of air quality monitoring data from 2006 to 2008 as well as other factors, analytical tools, and technical information.

- The air monitoring data from 2006 to 2008 also show that 91 counties that previously had been notified that they were violating or contributing to a violation of the standards (based on 2005-2007 air quality data) now meet the standards and will be designated as attainment/unclassifiable. These areas must prevent their daily fine particle air quality from deteriorating to unhealthy levels.

- In a related action, EPA will notify governors and tribal leaders in Arizona, California and Texas that 2006-2008 monitoring data show that certain areas in these states have violated one or more of the particulate matter standards. EPA will evaluate these areas to determine appropriate boundaries for the potential nonattainment designations. These include:
  - For the 24-hour PM$_{2.5}$ standards:
    - Arizona: Pinal County
    - California: Plumas County and Shasta County
  - For the annual PM$_{2.5}$ standard of 15 $\mu g/m^3$ (set in 1997):
    - Arizona: Pinal County
    - Texas: Harris County

- EPA will work closely with the affected state and tribal leaders in
evaluating these potential nonattainment areas. The agency expects to complete the process by early 2010.

REQUIREMENTS FOR NONATTAINMENT AREAS

- Nonattainment areas include the counties with monitors that violate a standard and the nearby areas that contribute to that violation. The Clean Air Act requires state, local and tribal governments to take steps to control fine particle pollution in \( \text{PM}_{2.5} \) nonattainment areas. Those steps may include stricter controls on industrial facilities and additional planning requirements for transportation-related sources.

- State and local governments must detail these steps in plans that demonstrate how they will meet the 24-hour \( \text{PM}_{2.5} \) standards. Those plans are known as state implementation plans, or SIPs. States must submit their plans to EPA within three years after the effective date of the agency’s final designations provided in the Federal Register.

- Tribes also may submit plans, known as tribal implementation plans (TIPS), but are not required to do so.

- Nonattainment areas are required to meet the standards by 2014. EPA may grant attainment date extensions for up to five additional years in areas with more severe \( \text{PM}_{2.5} \) problems and where emission control measures are not available or feasible.

- Nonattainment areas must implement “transportation conformity,” which requires that local transportation and air quality officials coordinate planning to ensure that transportation-related emissions -- from projects such as road construction -- do not interfere with an area’s ability to reach its clean air goals. Transportation conformity requirements become effective one year after the effective date of an area’s designation as nonattainment.

- Once designated, nonattainment areas also are subject to new source review requirements. New Source Review is a permitting program for industrial facilities to ensure that new and modified sources of pollution do not impede progress toward cleaner air.

- EPA and its partners at state, tribal and local agencies are taking action to cut particle pollution. Efforts by states and tribes to attain the 1997 \( \text{PM}_{2.5} \) standards will help to reduce unhealthy levels of fine particle pollution. In addition, EPA’s Clean Diesel Program is helping to reduce fine particle pollution across the country from highway, nonroad and stationary diesel engines. Also, as a result of Federal programs to address interstate transport, levels of sulfur dioxide (which can form \( \text{PM}_{2.5} \)) have also been reduced. In some areas, wood smoke emissions are a significant contributor to fine particle pollution. A wood stove or fireplace changeout campaign or other program targeting wood smoke emissions may reduce emissions and help the area attain the standards.

BACKGROUND
The Clean Air Act requires EPA to issue designations after the agency sets a new National Ambient Air Quality Standard (NAAQS) or revises an existing standard. EPA formally designates areas as "nonattainment" (not meeting the standard), "unclassifiable/attainment" (meeting the standard or expected to be meeting the standard), or "unclassifiable" (insufficient data to classify).

On September 21, 2006, EPA revised its NAAQS for PM$_{2.5}$ by significantly strengthening the 24-hour standards from 65 micrograms per cubic meter ($\mu$g/m$^3$) to 35$\mu$g/m$^3$. Thousands of scientific studies have linked exposure to these tiny particles - approximately 1/30th the size of a human hair - with serious human health problems including premature death in people with heart and lung disease; nonfatal heart attacks; and increased hospital admissions and doctor and emergency room visits for respiratory and cardiovascular disease.

In June 2007, EPA provided guidance to states and tribes for recommending nonattainment area boundaries for the 24-hour PM$_{2.5}$ standard. EPA also used these factors and additional analytical tools, and other relevant information, to make final decisions on nonattainment area boundaries:

- Emission data
- Air quality data
- Population density and degree of urbanization (including commercial development)
- Traffic and commuting patterns
- Growth rates and patterns
- Meteorology (weather/transport patterns)
- Geography/topography (mountain ranges or other air basin boundaries)
- Jurisdictional boundaries (e.g., counties, air districts, Reservations, metropolitan planning organizations)
- Level of control of emission sources

States and some tribes provided their initial designation recommendations in December 2007 based on the most recent three years of air quality monitoring data - generally 2004 to 2006. In August 2008, EPA sent letters to state and tribal representatives responding to their initial recommendations for areas meeting and not meeting the 24-hour PM$_{2.5}$ national ambient air quality standards. States and tribes had 120 days to comment on EPA's modifications to their recommendations, and to provide new information and analyses to EPA, if appropriate.

EPA also provided the public with a 30-day opportunity to comment on the Agency's proposed modifications to the state and tribe recommendations and to offer additional information that could help establish the final nonattainment area boundaries.

After reviewing the additional information received, in December 2008, EPA made decisions on area designations based on air quality monitoring data from 2005, 2006 and 2007. Because air quality monitoring for 2008 was nearly complete, EPA agreed to evaluate the status of an area based on 24-hour PM$_{2.5}$ air quality data from 2006-2008, if a state submitted complete, quality-assured, certified air quality data for 2008 before the designations became effective.

The December 2008 notice identifying areas as meeting and not meeting the standards was never published in the Federal Register.
and has been under review by the new EPA leadership. Now that the 2008 air quality monitoring data for fine particle pollution have been quality assured and certified by the states, EPA was able to make final designations that reflect those air quality data.

FOR MORE INFORMATION

- For more information on the designation process for the fine particle standards go to EPA's Web site at www.epa.gov/pmdesignations.