MEETING NOTICE AND AGENDA

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

Wednesday, May 5, 2010

10:30 a.m. to 12 noon

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

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

AGENDA HIGHLIGHT

• 2008 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP) AMENDMENT NO. 23: DRAFT REGIONAL EMISSIONS ANALYSIS AND MODELING PROCEDURES

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

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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.
SAN DIEGO CONFORMITY WORKING GROUP (CWG)  
Wednesday, May 5, 2010

ITEM #  RECOMMENDATION

1. INTRODUCTIONS

2. MEETING SUMMARY OF APRIL 7, 2010  INFORMATION

The meeting summary for the April 7, 2010, CWG meeting is attached. The CWG is asked to review the meeting summary.

3. PUBLIC COMMENTS/COMMUNICATIONS

Members of the public will have the opportunity to address the Working Group during this time.

4. 2008 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP) AMENDMENT NO. 23: EMISSIONS ANALYSIS AND MODELING PROCEDURES (DRAFT)  DISCUSSION

At the April 7, 2010, CWG meeting the group discussed the conformity criteria and procedures to be followed to determine conformity of the 2008 RTIP Amendment No. 23 and to redetermine conformity of the 2030 Regional Transportation Plan (RTP). The Draft Conformity Analysis document was released to the CWG for a 30-day comment period on April 29, 2010. 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 May 29, 2010. The Draft 2008 RTIP Amendment No. 23 and its draft conformity analysis are scheduled to be presented to the Transportation Committee on July 16, 2010, and to the Board of Directors on July 23, 2010.

5. 2010 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP) PROJECT LIST  DISCUSSION

Staff distributed the draft list of exempt projects via e-mail on April 26, 2010, for interagency consultation. A draft list of capacity increasing projects will be distributed to the CWG via e-mail prior to the meeting. The CWG will be asked to provide comments on the draft list of projects.

6. EMFAC 2010 DEVELOPMENT  DISCUSSION

California Air Resources Board (ARB) staff will provide the CWG with an update on the development of the next generation of EMFAC software.
<table>
<thead>
<tr>
<th>ITEM #</th>
<th>RECOMMENDATION</th>
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<tbody>
<tr>
<td>7.</td>
<td>EIGHT-HOUR OZONE STANDARD RE-CLASSIFICATION UPDATE</td>
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<td>Staff from U.S. 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.</td>
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<tr>
<td>8.</td>
<td>OTHER BUSINESS</td>
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<tr>
<td>9.</td>
<td>UPCOMING MEETINGS</td>
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<td></td>
<td>The next meeting of the CWG is scheduled for Wednesday, June 2, 2010, from 10:30 a.m. to 12 noon at SANDAG.</td>
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</tbody>
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+ next to an item indicates an attachment
MEETING SUMMARY OF APRIL 7, 2010

Item #1: Introductions

Self-introductions were made. See attached attendance list.

Item #2: Summary of November 4, 2010, Meeting

Rachel Kennedy, SANDAG, asked the CWG to review the meeting summary. No corrections were made.

Item #3: Public Comments/Communications

No public comments were made.

Item #4: 2008 Regional Transportation Improvement Program (RTIP) Amendment No. 23: Conformity Criteria and Procedures

Rachel Kennedy announced that the CWG will discuss the conformity criteria and procedures to determine conformity of the 2008 RTIP Amendment No. 23, which includes the addition of a project to construct auxiliary lanes on eastbound State Route 78 between the Woodland Parkway Interchange and Nordahl Road Interchange and widening the Mission Road undercrossing in San Marcos. SANDAG staff made brief presentations on the following topics:

a. Revenue-Constrained Program Assumptions:

Michelle Merino, SANDAG, described some of the highlights from the financial assumptions outlined in Chapter 4 of the final 2008 RTIP. As a non-attainment 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.

Projects programmed in the 2008 RTIP have been escalated based upon anticipated inflation and other factors to the expected year of obligation or expenditure. For STIP and SHOPP, the revenues
and program are based on the 2008 Fund Estimate adopted by the 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.

Ms. Merino stated that revenue sources are grouped into different categories—federal, state, and local. This project will be funded with SHOPI and local funds.

Federal Funds:

- Federal funds programmed are based on the federal authorizing legislation, Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which expired September 30, 2009. Although the federal government is operating under a Continuing Resolution, the assumption is that the current federal funding programs will continue.

- On the FHWA side, revenues include 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, Transportation Enhancement, and Highway Maintenance.

- On the FTA side, revenues include Section 5309 Fixed Guideway, Section 5309 New Starts, other Discretionary, Section 5307 urbanized, Section 5310, Section 5311, Section 5316, and Section 5317 New Freedom Program.

- Since the adoption of the RTIP in July 2008, various American Recovery and Reinvestment Act (ARRA) revenues have been added.

State Revenues:

- The state highway projects programmed are based on the 2008 STIP adoption. Some of the funding sources are: Freeway Service Patrol, Prop 1B, STIP, and SHOPI. Also, a new funding program, Traffic Congestion Relief Program (TCRP), was created in an effort to relieve congestion statewide. TCRP funds are based on the priority list of TCRP allocations.

Local Revenues:

- Local funding sources include TransNet Local Transportation Sales Tax Program, Local Agency Funding, Local Privatization/Toll Revenues, and Transportation Development Act (TDA).

Other Revenue Sources:

- Local agency contributions, private sector funding, advertising income, investment earnings, passenger fare revenue, and other miscellaneous income. Revenues from these sources are generally consistent with established historical trends or are based upon funding commitments from local agencies, GARVEE, and based on the same concept of advancing projects, the SANDAG Board approved the issuance of $600 million in long-term debt backed by TransNet in order to complete major transportation projects early.
b. Regional Growth Forecast

Rachel Kennedy announced that the SANDAG Board of Directors approved the 2050 Regional Growth Forecast for planning purposes. Ms. Kennedy explained that the new forecast is being produced as we are going through a significant economic correction. As a result, the growth rate for both jobs and housing is slower in the early years of the forecast.

Additionally, many of the local jurisdictions have updated their General Plans and community plans. As a result, this forecast includes more urban infill and growth near transit and a substantially lower interregional commute.

According to the forecast the region is expected to have 4.38 million residents, 1.9 million jobs, and 1.53 million housing units in 2050. Staff consulted with local jurisdictions for the years between 2040 and 2050, so all growth assumptions in the forecast were locally driven.

c. Travel Demand Model

Rachel Kennedy stated that there are three main elements to be updated in the Series 12 transportation model: demand (land use), supply (network), and the model (software infrastructure).

The land uses from the approved the 2050 growth forecast will be used in the model. There are new land use codes so trip generation rates are being developed for those land uses. The zone system boundaries were updated. This includes the Transportation Analysis Zones (TAZs), Transportation Distribution Zones (an aggregate of the TAZs), and the base unit (the master geographic reference area for land use data). Additionally, traffic counts and special trip generators, such as the airport, are being updated to the 2008 base year of the model.

Local jurisdictions were asked to review the transportation model network. A GIS Web-based system was created for local jurisdictions to use. Approximately 2,500 comments were provided and incorporated in the 2008 base network.

Several new components were added to the Series 12 model. First, a 4D model was incorporated. The 4Ds are density, diversity, destination, and design. The 4D model is important because trip length and mode vary based upon the 4D elements. The 4D model will assist with better understanding non-motorized shares.

Second, a trip-based truck model was included for light-heavy duty, medium-heavy duty, and heavy-heavy duty trucks. This is based off of weight classifications from EMFAC 2007 so there is direct correspondence with the air quality model. For external trips, the model will be updated to use the locally developed Gateway Forecast that was recently completed by SANDAG. For internal trip rates, SANDAG is using information from SCAG’s heavy-duty truck model for trip rates but based off of internal employment sectors. Special trip generators, such as cruise ship terminals, are also included. Truck trips will be assigned to the network using passenger car equivalents for trucks. Last, we are now using TransCAD 5.0 modeling software.
Dennis Wade asked if there was a publication that describes the new model. Elisa Arias responded that there is not yet a publication but one will be developed in the next several months.

d. Latest Emissions Model, Emissions Budgets

Rachel Kennedy explained that SANDAG is required to run emissions forecasts for reactive organic gases (ROG), nitrogen oxide (NOx), and carbon monoxide (CO). ROG and NOx emissions forecasts are based on the summer season and CO emissions are based on the winter season using EMFAC 2007.

For ozone, SANDAG will utilize the budgets from the Eight-Hour Ozone Attainment Plan that were found adequate for transportation conformity by the U.S. Environmental Protection Agency (EPA) in June 2008. For CO, SANDAG uses the 2004 Revision to California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for Ten Federal Planning Areas that was approved as a SIP revision in January 2006.

The regional transportation modeling will start this month and SANDAG will run three scenarios (2010, 2020, and 2030) for ROG and NOx. This complies with the Transportation Conformity Rule, which states that the first horizon year must be within ten years from the base year (2008), and the last horizon year must be the last year of the transportation plan’s forecast period (2030). For CO, SANDAG will run the same three scenarios (2010, 2020, 2030). The year 2018 will be interpolated. Additionally, the adjustment factors, approved by ARB, will be used for ROG and NOx.

e. Transportation Control Measures

Rachel Kennedy stated that SANDAG is still working from the four transportation control measures (TCMs) that were included in the 1982 SIP. These TCMs are ridesharing, transit service improvements, traffic flow improvements, and bicycle facilities improvements. All of the TCMs have been fully implemented and continue to be funded in the RTIP. In the 2008 RTIP, 30 percent of funding was allocated to TCM projects.

f. Public Involvement and Outreach

Michelle Merino explained the Public Participation/Involvement Policy (Board Policy No. 25). The policy states that:

1. SANDAG shall follow the latest federal and state regulations regarding participation by interested parties.

2. As the document that implements the long-range plan, the RTIP shall be incorporated as part of the Board-adopted public involvement process established for the Regional Transportation Plan (October 27, 2006), including participating in public outreach efforts, providing adequate public notice (legal notice publications), employing visualization techniques, and holding public meetings at convenient and accessible locations.
3. SANDAG shall respond to any significant public input or comment received during the development of the biennial update and/or during the amendment cycle as part of its report to the Transportation Committee and Board.

4. The biennial RTIP update will be noticed in newspapers of general circulation including in alternate languages and a public hearing shall be held prior to final adoption by the Board of Directors.

5. During the amendment cycle, SANDAG will provide a draft of the amendment to all interested parties for a 15-day comment period.

g. Schedule for 2008 RTIP Amendment No. 23

The schedule for Amendment No. 23 was sent via e-mail. It was noted that the Draft Conformity Document will be provided to the CWG for a 30-day review on April 28, 2010. Staff is in the process of coding the project. The draft conformity document will be discussed at the May CWG meeting. The amendment and its air quality conformity analysis are scheduled to go to the Transportation Committee on July 16, 2010, and to the SANDAG Board of Directors for action on July 23, 2010.

Item #4: 2010 Regional Transportation Improvement Program (RTIP)

Ms. Kennedy stated that approximately 500 projects were submitted by local jurisdictions and approximately 300 of those projects are categorized as exempt. The projects will be ready for interagency consultation on May 18 and the draft conformity analysis will be discussed at the June CWG meeting.

Item #6: EMFAC 2010 Development

There was no new information on this item.

Item #7: Eight-Hour Ozone Standard Reclassification Update

There was no new information on this item.

Item #8: Other Business

Carl Selnick, APCD, asked if there was an update on how SANDAG will determine conformity for the years 2041 – 2050 of the 2050 RTP.

Rachel Kennedy stated that since EMFAC 2010 software only forecasts emissions to 2040, staff will only be able to determine conformity for the RTP through 2040 and will conduct an informational analysis of regional emission for 2041 - 2050. Staff had a conference call with FHWA and U.S. EPA to discuss the options for conducting an informational analysis. Staff will continue to work with the U.S. EPA, FHWA, and ARB to determine the best methodology and will present that methodology at a future meeting.

Mike Brady, Caltrans, asked if SANDAG could use MOVES instead of EMFAC for 2041 - 2050. MOVES cannot be used for conformity purposes in California; however, since this is only an informational
analysis we may want to consider this option. Carl Selnick stated that using MOVES to develop factors to adjust EMFAC’s 2040 estimates might be an option.

A public comment period on the proposed informational analysis of regional emission for 2041 - 2050 would be required. Ms. Kennedy asked if including this as an agenda item at a future Transportation Committee meeting would be adequate. Mr. Brady stated that SANDAG’s usual public process for conformity issues should be adequate.

Item #9: Upcoming Meeting

Ms. Kennedy stated that the next meeting of the CWG is scheduled for May 5, 2010, from 10:30 a.m. to 12 noon. Meeting materials will be sent to the group in advance.
## San Diego Region Conformity Working Group
### Meeting Attendance
   April 7, 2010

<table>
<thead>
<tr>
<th>Name</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dennis Wade (phone)</td>
<td>ARB</td>
</tr>
<tr>
<td>Mike Brady (phone)</td>
<td>Caltrans</td>
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<tr>
<td>Ken Johanssen (phone)</td>
<td>Caltrans</td>
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<tr>
<td>Jose Marquez (phone)</td>
<td>Caltrans</td>
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<tr>
<td>Stew Sonnenberg (phone)</td>
<td>FHWA</td>
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<tr>
<td>Elisa Arias</td>
<td>SANDAG</td>
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<tr>
<td>Rachel Kennedy</td>
<td>SANDAG</td>
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<tr>
<td>Antoinette Meier</td>
<td>SANDAG</td>
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<tr>
<td>Michelle Merino</td>
<td>SANDAG</td>
</tr>
<tr>
<td>Carl Selnick</td>
<td>SDAPCD</td>
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<tr>
<td>Carla Walecka (phone)</td>
<td>TCA</td>
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BACKGROUND

The federal Clean Air Act (CAA), which was last amended in 1990, requires the United States Environmental Protection Agency (U.S. EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. 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 (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 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 national ambient air quality standards.

On November 30, 2007, the SANDAG Board 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 U.S. DOT made its conformity determination on December 10, 2007.

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

On January 22, 2010, the SANDAG Board adopted the 2008 RTIP Amendment No. 16 and its conformity finding. The U.S. DOT made a finding of conformity for this amendment on February 19, 2010.

SANDAG was requested to amend the 2008 RTIP to incorporate the addition of a project in the City of San Marcos (SM44) which is described in detail in Attachment 1.

revoked the federal One-Hour Ozone Standard after the Eight-Hour Ozone Standard became applicable for conformity.

On April 15, 2004, the EPA designated the San Diego air basin as non-attainment for the 1997 Eight-Hour Ozone Standard. This designation took effect on June 15, 2004. Several areas that are tribal lands in eastern San Diego County were excluded from the non-attainment designation. As shown in Figure 2, La Posta Areas #1 and #2, Cuyapaipe, Manzanita, and Campo Areas #1 and #2 are attainment areas for the 8-Hour Ozone NAAQS.

The air basin was initially classified as a basic non-attainment area under Subpart 1 of the Clean Air Act and the maximum statutory attainment date for the Eight-Hour Ozone Standard was set as June 15, 2009. However, EPA, in response to a court decision, on January 16, 2009, proposed that, among other areas of the country, the San Diego basic non-attainment area will be reclassified as a Subpart 2 moderate non-attainment area, with a maximum statutory attainment date of June 15, 2010. Final EPA action on this proposed reclassification is yet to be taken.

In cooperation with the San Diego APCD and SANDAG, the California Air Resources Board (ARB) developed an Eight-Hour Ozone Attainment Plan 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

The 2008 RTIP, including Amendment No. 23, 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 SANDAG Board of Directors 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 an additional capacity increasing project and the SANDAG Board of Directors will be asked to approve the 2008 RTIP Amendment No. 23 and make a conformity determination for the RTIP and re-determination for the RTP on July 23, 2010. Table 3 to Table 5 includes 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 2050 Regional Growth Forecast, which was accepted by the SANDAG Board on February 26, 2010, for planning purposes.
The 2050 Regional Growth Forecast also will be utilized in the development of the 2050 RTP, which is anticipated to be adopted in summer 2011.

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 Conformity Working Group (CWG) on the use of the 2050 Regional Growth Forecast for the air quality conformity analysis of the 2008 RTIP as amended and 2030 RTP conformity redetermination. Previously, both U.S. DOT and U.S. EPA concurred that approved plans should be used as input in the air quality conformity process. Figure 1 and Table 1 show the regional population, jobs and housing growth forecast for the San Diego region through 2050.

**Figure 1—San Diego Regional Population, Jobs, and Housing Forecast**

![Population, Jobs, and Housing Forecast](image)

Source: SANDAG, February 2010

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Employment</th>
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<tr>
<td>2008</td>
<td>3,131,552</td>
<td>1,501,080</td>
</tr>
<tr>
<td>2020</td>
<td>3,535,000</td>
<td>1,619,615</td>
</tr>
<tr>
<td>2030</td>
<td>3,870,000</td>
<td>1,751,630</td>
</tr>
<tr>
<td>2040</td>
<td>4,163,688</td>
<td>1,877,668</td>
</tr>
<tr>
<td>2050</td>
<td>4,384,867</td>
<td>2,003,038</td>
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</table>

Source: SANDAG, February 2010
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 which 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 their projections for land uses in those later years. For the unincorporated area, 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 Growth Forecast incorporates new data from the recent economic downturn and is the first forecast to be prepared under the guidelines of Senate Bill (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. Current economic conditions have resulted in lower projected population and employment numbers as compared to the previous forecast (Table 2).

### Table 2—2030 and 2050 Regional Growth Forecast Comparison

<table>
<thead>
<tr>
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<th>Employment</th>
<th>Population</th>
<th>Employment</th>
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<tr>
<td></td>
<td>2030</td>
<td>2050</td>
<td>% Change</td>
<td>2030</td>
</tr>
<tr>
<td>2020</td>
<td>3,635,855</td>
<td>3,535,000</td>
<td>-3%</td>
<td>1,741,033</td>
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<tr>
<td>2030</td>
<td>3,984,753</td>
<td>3,870,000</td>
<td>-3%</td>
<td>1,913,682</td>
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### 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 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 then are 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 and 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 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 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 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 Surveys
- 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
- 2000 Census Transportation Planning Package
- 2010 Gateway Forecast; 2002 Freight Analysis Framework

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, 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, 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 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 2030, can be built. Three 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 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
- bus rapid transit (BRT)
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, in 2008 charge $1.25 for internal downtown trips and $2.50 for all other trips, and $2.50 for all trolley trips after 2008
- SPRINTER which charges $2.00
- commuter rail (COASTER) which has a zone-based fare of between $5.00 and $6.50
- proposed BRT routes which are assumed to charge $4.00
- proposed Rapid Bus routes, which are assumed to charge $2.50

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 RTP 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, light duty 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 2050 Regional Growth Forecast 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 and 2006 Travel Behavior Surveys 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 1, 3, or 5 percent were applied to selected trip purposes and land uses. Telework reduction factors depend on the likelihood the land use type would have employee categories that could feasibly telecommute. Reduction factors start in year 2020.

The truck model follows a similar process as 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 California Air Resources Board 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 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 and 4D category. 4D index categories attempt to define
locations by their density, diversity, 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.

Truck trip distribution is performed in a similar manner but 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 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 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 2006 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 6:00 to 9:00 in the morning and the p.m. peak period is from 3:00 to 6:00 in the afternoon. 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 the TransCAD “Multi-Modal Multi-Class 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 Highway Performance Monitoring System (HPMS) 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.

The travel demand modeling procedures used for the 2010 RTIP and 2030 RTP differ from previous modeling procedures in three key ways. First, a truck model is being run parallel to the four-step model for the first time. Truck origin-destination trip tables are merged with vehicle trip tables for highway assignment and air quality procedures. Second, new inputs were used, including the recently completed 2010 Gateway Forecast (a forecast of freight traffic in the region,) 2002 Freight Analysis Framework data, and the 2050 Regional Growth Forecast projections. The third difference is a 4D (density, diversity, urban design characteristics) category was used as inputs into the trip distribution model. These new inputs and procedures have contributed to changes in emissions modeling output.

**Motor Vehicle Emissions Modeling**

**Emissions Model**


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
- 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 April 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 April 2010 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 (2008), 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).
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 3 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 3—2008 RTIP Amendment No. 23 and 2030 Revenue Constrained RTP Air Quality Conformity Analysis for Eight-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>13,021</td>
<td>81,010</td>
<td>53</td>
<td>37</td>
</tr>
<tr>
<td>2020</td>
<td>14,567</td>
<td>89,216</td>
<td>53</td>
<td>24</td>
</tr>
<tr>
<td>2030</td>
<td>15,968</td>
<td>101,689</td>
<td>53</td>
<td>19</td>
</tr>
</tbody>
</table>

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.

Adjustment factors for ROG and NOx were provided by ARB 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 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 ARB. The tons listed are subtracted from the EMFAC 2007 output of tons per day for ROG and NOx.
Table 5 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.

Table 5—2008 RTIP Amendment No. 23 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>SIP Emissions Budget Tons/Day</th>
<th>CO Emissions Tons/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>13,021</td>
<td>81,010</td>
<td>730</td>
<td>391</td>
</tr>
<tr>
<td>2018</td>
<td>14,258</td>
<td>87,575</td>
<td>730</td>
<td>245</td>
</tr>
<tr>
<td>2020</td>
<td>14,567</td>
<td>89,216</td>
<td>730</td>
<td>209</td>
</tr>
<tr>
<td>2030</td>
<td>15,968</td>
<td>101,689</td>
<td>730</td>
<td>160</td>
</tr>
</tbody>
</table>


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 6 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>
<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>
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, 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 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 April 7, 2010, SANDAG staff presented the schedule for the preparation of the 2008 RTIP Amendment No. 23 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 Amendment No. 23 for consistency purposes. Staff presented information on the 2050 Regional Growth Forecast, Transportation Control Measures, the Revenue Constrained financial assumptions, latest emissions model, and public involvement and outreach.

- On April 29, 2010, SANDAG released the draft air quality conformity analysis of the 2008 RTIP Amendment No. 23 to the San Diego Region CWG for a 30-day review-and-comment period. On May 5, 2010, 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 June 9, 2010, the draft 2008 RTIP Amendment No. 23 and its conformity determination and the 2030 RTP conformity redetermination will be released for a public review period, which will close on July 16, 2010.

The 2008 RTIP Amendment No. 23 will be presented to the TransNet Independent Taxpayers Oversight Committee on July 14, 2010, for input.

The SANDAG Transportation Committee will be asked to recommend approval of the 2008 RTIP Amendment No. 23 and its conformity determination to the Board of Directors on July 16, 2010.

The SANDAG Board will be asked to approve the 2008 RTIP Amendment No. 23 and its conformity determination at its July 23, 2010, meeting.

Members of the public are welcomed to provide comments at meetings of the CWG, the Transportation Committee, and the SANDAG Board of Directors.
Table 1
2008 Regional Transportation Improvement Program
Amendment No. 23
San Diego Region (in $000s)

San Marcos, City of
MPO ID: SM44  Capacity Status: CI  RTIP #: 08-23
TITLE: Eastbound SR-78 Auxiliary lane

DESCRIPTION: From Woodland Parkway to Nordahl Road - construct auxiliary lanes along eastbound SR-78 between Woodland Parkway Interchange and Nordahl Road Interchange; includes widening of Mission Road undercrossing.

CHANGE REASON: New project

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>PRIOR</th>
<th>08/09</th>
<th>09/10</th>
<th>10/11</th>
<th>11/12</th>
<th>12/13</th>
<th>PE</th>
<th>RW</th>
<th>CON</th>
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</thead>
<tbody>
<tr>
<td>Local Funds</td>
<td>$4,000</td>
<td></td>
<td></td>
<td>$750</td>
<td>$3,250</td>
<td></td>
<td></td>
<td>$1,250</td>
<td>$2,750</td>
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<tr>
<td>SHOPP Augmentation - Mobility</td>
<td>$10,500</td>
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<td></td>
<td>$10,500</td>
<td></td>
<td></td>
<td>$1,250</td>
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<tr>
<td><strong>TOTAL</strong></td>
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<td><strong>$750</strong></td>
<td><strong>$13,750</strong></td>
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</table>