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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.

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 Unified Port District
 San Diego County
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Wednesday, June 9, 2010

10:30 a.m. to 12 noon

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

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

AGENDA HIGHLIGHT

- **2010 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP): 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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SAN DIEGO CONFORMITY WORKING GROUP (CWG)

Wednesday, June 9, 2010

ITEM #	RECOMMENDATION
1. INTRODUCTIONS	
+2. MEETING SUMMARY OF MAY 5, 2010	INFORMATION
<p>The summary of the May 5, 2010, Conformity Working Group (CWG) meeting is attached. The CWG is asked to review the meeting summary.</p>	
3. PUBLIC COMMENTS/COMMUNICATIONS	
<p>Members of the public will have the opportunity to address the Working Group during this time.</p>	
+4. 2010 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP): REGIONAL EMISSIONS ANALYSIS AND MODELING PROCEDURES (DRAFT)	DISCUSSION
<p>At the March 3, 2010, CWG meeting the group discussed the conformity criteria and procedures to be followed to determine conformity of the 2010 RTIP 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 June 1, 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 July 1, 2010. The Draft 2010 RTIP 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.</p>	
5. EMFAC 2010 DEVELOPMENT	DISCUSSION
<p>California Air Resources Board (ARB) staff will provide the CWG with an update on the development of the next generation of EMFAC software and the timeline for SANDAG to submit updated travel activity data for inclusion in the draft EMFAC 2010 model.</p>	
6. EIGHT-HOUR OZONE STANDARD RE-CLASSIFICATION UPDATE	DISCUSSION
<p>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.</p>	

ITEM #**RECOMMENDATION**

7. OTHER BUSINESS

INFORMATION

8. UPCOMING MEETINGS

INFORMATION

The next meeting of the San Diego Region Conformity Working Group is scheduled for Wednesday, July 7, 2010, from 10:30 a.m. to 12 noon at SANDAG.

+ next to an item indicates an attachment

San Diego Association of Governments
SAN DIEGO CONFORMITY WORKING GROUP

June 9, 2010

AGENDA ITEM NO.: **2**

Action Requested: INFORMATION

MEETING SUMMARY OF MAY 5, 2010

File Number 3100600

Item #1: Introductions

Self-introductions were made. See attached attendance list.

Item #2: Meeting Summary of April 7, 2010

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

Item #3: Public Comments/Communications

No public comments were made.

Item #4: 2008 Regional Transportation Improvement Program (RTIP) Amendment No. 23: Emissions Analysis and Modeling Procedures (Draft)

Rachel Kennedy stated that 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 Emissions Analysis and Modeling Procedures document was released to the CWG for a 30-day comment period on April 29, 2010. The CWG was 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.

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.

On April 15, 2004, the EPA designated the San Diego air basin as nonattainment 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 nonattainment designation. As shown in Figure 2 at the end of the document.

The U.S. EPA initially classified the air basin as a basic nonattainment 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 nonattainment area will be reclassified as a Subpart 2 moderate nonattainment 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 Attainment Plan, which was submitted to the U.S. EPA on June 15, 2007. The budgets in the 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 also been designated by the U.S. EPA as a federal maintenance area for the carbon monoxide (CO) standard.

Modeling Procedures

At the April 7, 2010, CWG meeting staff provided information on the transportation conformity modeling procedures. 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.

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.

This is the first time SANDAG has used this growth forecast for transportation conformity. Ms. Kennedy pointed out some differences between the 2050 Regional Growth Forecast and the previous forecast. 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).

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. This is the first time that 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.

A number of data files and surveys are used to calibrate the transportation model. In addition to model parameters derived from these surveys, there are three major inputs to the transportation models: the growth forecast, highway networks, and transit networks.

The travel demand modeling procedures used for the 2008 RTIP Amendment No. 23 and 2030 RTP redetermination 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, distance, and design) category 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

Ms. Kennedy described the motor vehicle emissions modeling process. For the air quality analysis, Emission FACTors (EMFAC) 2007, an emissions inventory model that calculates emissions for motor vehicles operating in California, was used. In November 2006, ARB released EMFAC. It is an integrated model that combines emission rate data with vehicle activity to calculate regional emissions. The U.S. EPA approved EMFAC 2007 for use in conformity determinations on January 18, 2008. Details of the emissions modeling process are located on pages 23 and 24 of the agenda package.

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 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.

Tables 3 and 5 show the projected emissions to meet the budgets both for the Eight-Hour Ozone Standard and for CO.

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.

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.

Implementation of Transportation Control Measures

There are four federally-approved TCMs that must be implemented in San Diego, which the SIP refers to as Transportation Tactics. They include ridesharing, transit service improvements, traffic flow improvements, and bicycle facilities and programs.

These TCMs were established in the 1982 SIP, which identified general objectives and implementing actions for each tactic. The TCMs have been fully implemented. Ridesharing, transit, bicycling, and traffic flow improvements continue to be funded, although the level of implementation established in the SIP has been surpassed. 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.

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 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 CWG for a 30-day review-and-comment period. Today, May 5, 2010, the draft air quality analysis is being discussed 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 Taxpayer 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.

The 2008 RTIP Amendment No. 23 includes one additional project, which is the San Marcos 44 project, listed on page 29 of the agenda package.

Item #5: 2010 Regional Transportation Improvement Program (RTIP) Project List

Ms. Kennedy stated that staff distributed the draft list of exempt projects via email on April 26, 2010, for interagency consultation. The agenda states that a draft list of capacity-increasing projects will be distributed to the CWG via email prior to the meeting, but this did not occur, and SANDAG staff will distribute this list before the end of the day if possible.

A week will be provided for the CWG to comment on the draft list of projects. Ms. Kennedy asked if there were comments on the list of exempt projects.

Stew Sonnenberg, FHWA, stated that page 4 of the list shows CAL 104 and 105 with project descriptions that do not seem totally accurate. He asked if the descriptions can be revised to accurately reflect the projects. Also, the reference to 40 CFR Part 93.126 only refers to table 2 (not tables 2 and 3).

Ms. Kennedy stated that any revised information would be circulated to the entire group.

Mr. Sonnenberg stated that page 22 of the list shows CAL 11 with an exempt category of pavement resurfacing, while a more appropriate category may be bicycle and pedestrian facilities.

Ms. Arias stated that the deadline for reviewing this project list would be extended to the same deadline as the capacity-increasing projects.

Ms. Kennedy stated that she would extend the deadline via email when she sends out the capacity-increasing project list.

Item #6: EMFAC 2010 Development

There was no new information on this item. Dennis Wade, ARB, stated that discussions continue among SANDAG, ARB, and EPA regarding the analysis year of the 2050 RTP.

Ms. Arias stated that SANDAG is planning to do some model runs with EMFAC to look at possible options for the analysis that would be presented to the CWG for feedback. Options could include using factors for the 2010 to 2040 timeframe or 2030 to 2040 timeframe or looking at the MOVES adjustment factors for 2040 to 2050.

Ms. Arias asked Mr. Wade if he could find out when MPOs will be able to submit new travel activity data to ARB in order to have updated numbers incorporated into EMFAC 2010.

Mr. Wade stated he would find out the schedule for receiving updated data from MPOs.

Item #7: Eight-Hour Ozone Standard Reclassification Update

There was no new information on this item.

Item #8: Other Business

Michael Brady, Caltrans, stated that Eight-Hour Ozone Standard Reclassification for South Coast and Coachella in southern California was published as a final rule in the Federal Register and the bump-ups will be effective in June. South Coast was bumped up to extreme and Coachella to severe.

Item #9: Upcoming Meeting

Ms. Kennedy stated that the next meeting of the CWG is scheduled for June 2, 2010, from 10:30 a.m.-12:00 noon. Meeting materials will be sent to the group in advance, including an email with the full list of capacity-increasing projects for the 2010 RTIP and extension of the comment period for the non-capacity-increasing projects.

Mr. Brady is not available for the June 2 meeting and will rely on District 11 for attendance at the CWG meeting. Mr. Sonnenberg will also be unable to call in on June 2. Ms. Kennedy stated that she will look at the items for the June 2, 2010, meeting to determine if a cancellation would be appropriate or if an alternate meeting date could be set. The next Statewide Conformity Working Group meeting will be held in September.

San Diego Region Conformity Working Group

Meeting Attendance

May 5, 2010

Name	Agency
Dennis Wade (phone)	ARB
Mike Brady (phone)	Caltrans
Jose Marquez (phone)	Caltrans
Stew Sonnenberg (phone)	FHWA
Elisa Arias	SANDAG
Rachel Kennedy	SANDAG
Andrea Hoff	SANDAG
Michelle Merino	SANDAG
Carl Selnick	SDAPCD
Sue Meyer (phone)	TCA

DRAFT 2010 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP) 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 (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.

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

The SANDAG Board will be asked to approve the 2010 RTIP on September 24, 2010 as well as redetermine conformity for the 2030 RTP for consistency purposes.

The San Diego region attained the federal One-Hour Ozone Standard in 2001. The U.S. EPA redesignated the San Diego air basin as attainment/maintenance and approved the One-Hour Ozone Maintenance Plan as a SIP revision, effective on July 28, 2003. On June 15, 2005, the U.S. EPA 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 nonattainment 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 nonattainment 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 nonattainment 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 nonattainment area will be reclassified as a Subpart 2 moderate nonattainment 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 2010 RTIP is consistent with the 2030 RTP: Pathways for the Future. As a financially constrained plan the 2010 RTIP only contains those major transportation projects listed in the Revenue Constrained 2030 RTP. Chapter 4 of the 2010 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 2010 RTIP includes additional capacity increasing projects and the SANDAG Board of Directors will be asked to approve the 2010 RTIP and make a conformity determination for the RTIP and re-determination for the RTP on September 24, 2010. Table 3 to Table 5 include the conformity analysis for both the 2010 RTIP and the 2030 Revenue Constrained RTP.

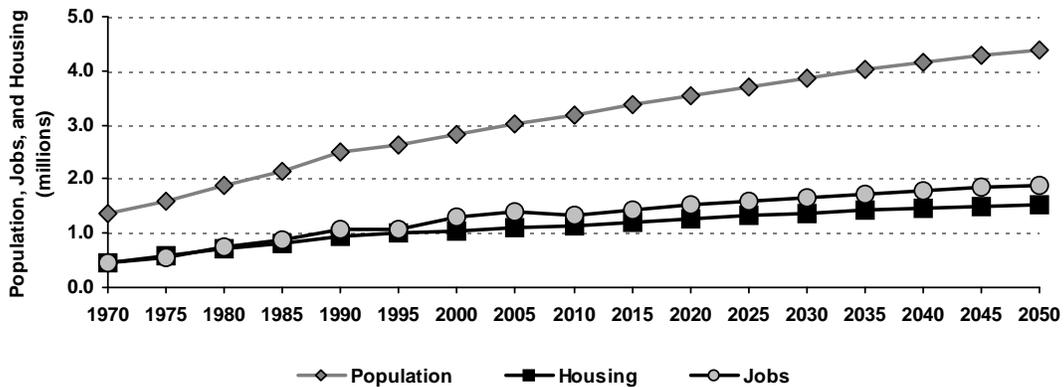
Growth Forecasts

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 2010 RTIP 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



Source: SANDAG, February 2010

Table 1—San Diego Regional Population and Employment Forecast

2050 Regional Growth Forecast		
Year	Population	Employment
2008	3,131,552	1,501,080
2020	3,535,000	1,619,615
2030	3,870,000	1,751,630
2040	4,163,688	1,877,668
2050	4,384,867	2,003,038

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

Regional Growth Forecast Comparison						
Year	Population			Employment		
	2030 Regional Growth Forecast	2050 Regional Growth Forecast	% Change	2030 Regional Growth Forecast	2050 Regional Growth Forecast	% Change
2020	3,635,855	3,535,000	-3%	1,741,033	1,619,615	-7%
2030	3,984,753	3,870,000	-3%	1,913,682	1,751,630	-8%

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 2010 RTIP 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 2010 RTIP 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 2010 RTIP 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 2010 RTIP 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)
- ▶ rapid bus
- ▶ 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, 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 2010 RTIP 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 | 6. work-other |
| 2. home-college | 7. other-other |
| 3. home-school | 8. serve passenger |
| 4. home-shop | 9. visitor |
| 5. home-other | 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, distance, and urban design characteristics. A high 4D index value represents areas that would be considered smart growth and would result in shortened trip lengths. In this way the model is designed to reflect changing trip patterns in response to the types of new development in land use scenarios. The model also modifies trip patterns as new roadways are added.

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
- ▶ 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, distance, and 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

In November 2006, ARB released Emission FACTors (EMFAC) 2007, an emissions inventory model that calculates emissions for motor vehicles operating in California. It is an integrated model that combines emission rate data with vehicle activity to calculate regional emissions. The U.S. EPA approved EMFAC 2007 for use in conformity determinations on January 18, 2008.

The EMFAC 2007 model supports 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 2010 RTIP 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 2010 RTIP 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 2010 RTIP 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 2010 RTIP and 2030 RTP are below the 2008 ROG and NOx budgets.

Table 3—2010 RTIP and 2030 Revenue Constrained RTP Air Quality Conformity Analysis for Eight-Hour Ozone

Year	Average Weekday Vehicle Starts (1,000s)	Average Weekday Vehicle Miles (1,000s)	ROG		NOx	
			SIP Emissions Budget Tons/Day	ROG Emissions Tons/Day	SIP Emissions Budget Tons/Day	NOx Emissions Tons/Day
2010	13,470	82,599	53	38	98	72
2020	15,066	90,819	53	24	98	40
2030	16,511	103,449	53	20	98	32

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

Year	ROG Adjustment Factor (tons/day)	NOx Adjustment Factor (tons/day)
2010	0.04	2.37
2020	0.33	2.40
2030	0.71	2.80

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 2010 RTIP and 2030 RTP are below the 2003 CO budget of 730 tons per day.

**Table 5—2010 RTIP and 2030 Revenue Constrained RTP
Air Quality Conformity Analysis for Carbon Monoxide**

Year	Average Weekday Vehicle Starts (1,000s)	Average Weekday Vehicle Miles (1,000s)	CO	
			SIP Emissions Budget Tons/Day	CO Emissions Tons/Day
2010	13,470	82,599	730	399
2018	14,747	89,175	730	250
2020	15,066	90,819	730	213
2030	16,511	103,449	730	163

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

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 2010 RTIP 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 6—Exempt Projects

<i>Project/Program Description</i>
<p><i>Bikeway, Rail Trail and Pedestrian Projects</i></p> <p>Bayshore Bikeway Third Avenue Bicycle and Pedestrian Access Industrial Blvd. Bicycle and Pedestrian Facilities Inland Rail Trail Escondido Creek Bikeway Ash Street Undercrossing Maple Street Pedestrian Plaza West Bernardo Bike Path Spring Street Trolley/La Mesa/El Cajon Intersection Improvement Sweetwater River Bike Path Gap Closure Highway 101 Streetscape and Traffic Calming Project SR 15 Bikeway San Diego River Multi-Use Bicycle and Pedestrian Path SR 56 Bike Path; Interchange at Black Mountain Road Barham Dr Urban Trail</p>
<p><i>Regionwide Traffic Incident Management</i></p> <p>Freeway Service Patrol</p>
<p><i>Safety Improvement Program</i></p> <p>Hazard Elimination Bridge Rehabilitation/Preservation Collision Reduction Roadway/Roadside Preservation Noise Barrier Program Safe Routes to Schools Highway Safety Improvement Program</p>
<p><i>Transportation Demand Management</i></p> <p>Regional Vanpool Program RideLink Regional Rideshare Program</p>
<p><i>Transportation Management Systems</i></p> <p>FastTrak (I-15) ITS Operating Vehicle Assist and Automation/Bus on Shoulder Service Alvarado Canyon Road Realignment</p>

<i>Project/Program Description</i>
School Traffic Safety Improvements
Prospect Street/Silverado Street Roundabout
Linda Vista Road at Genesee Avenue
Joint Transportation Operations Center (JTOC)
Ramp Meters (SR 56)
Other Traffic Management Systems

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 2010 RTIP 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 2010 RTIP and 2030 RTP at meetings of the CWG, as follows:

- ▶ On March 3, 2010, SANDAG staff presented the schedule for the preparation of the 2010 RTIP 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 2010 RTIP 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 26, 2010 SANDAG staff distributed the draft list of exempt projects to be included in the 2010 RTIP for interagency consultation. On May 5, 2010 staff distributed the draft list of capacity increasing projects for CWG review.
- ▶ On June 1, 2010, SANDAG will release the draft air quality conformity analysis of the 2010 RTIP to the San Diego Region CWG for a 30-day review-and-comment period. On June 9, 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.
- ▶ The 2010 RTIP will be presented to the TransNet Independent Taxpayers Oversight Committee on July 14, 2010 for input.
- ▶ On July 23, 2010, the draft 2010RTIP and its conformity determination and the 2030 RTP conformity redetermination will be released for a public review period, which will close on August 23, 2010.
- ▶ On September 3, 2010 the SANDAG Transportation Committee will hold a public hearing on the 2010 RTIP and will be asked to recommend approval of the final 2010 RTIP and its conformity determination to the Board of Directors on September 3, 2010.
- ▶ The SANDAG Board will be asked to approve the 2010 RTIP and its conformity determination at its September 24, 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.