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

Wednesday, March 21, 2007
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 HIGHLIGHTS

• 2007 REGIONAL TRANSPORTATION PLAN (RTP) CONFORMITY CRITERIA AND PROCEDURES

• DRAFT 8-HOUR OZONE ATTAINMENT PLAN FOR SAN DIEGO COUNTY

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

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<table>
<thead>
<tr>
<th>ITEM #</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>INTRODUCTIONS</td>
</tr>
<tr>
<td>2.</td>
<td>SUMMARY OF JANUARY 17, 2007, MEETING</td>
</tr>
<tr>
<td>3.</td>
<td>PUBLIC COMMENTS/COMMUNICATIONS</td>
</tr>
<tr>
<td>4.</td>
<td>2007 REGIONAL TRANSPORTATION PLAN (RTP) CONFORMITY CRITERIA AND PROCEDURES</td>
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<td></td>
<td>The CWG will discuss the conformity criteria and procedures to be followed to determine conformity of the 2007 RTP. Correspondence from FHWA regarding emissions models and grace periods is attached. SANDAG staff will make brief presentations on the following topics:</td>
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<td>+a. Latest Emissions Model</td>
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<td>b. Emissions Budgets and Interim Emissions Analysis</td>
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<td>+c. Consultation, Public Involvement and Outreach</td>
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<td></td>
<td>d. Transportation Control Measures</td>
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<td>e. Other</td>
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<td>5.</td>
<td>2006 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP) AMENDMENTS</td>
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<td>Caltrans and local jurisdictions have requested that SANDAG amend the 2006 RTIP to include several project changes. A list of exempt projects was distributed to the CWG on February 26, 2007, for interagency consultation. The Transportation Committee is scheduled to take action on Amendment No. 4 at its April 20, 2007, meeting.</td>
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<td>As part of the current RTP process, SANDAG is soliciting information on capacity increasing (CI) projects. Agencies wishing to add new CI projects, delete or revise the schedule or scope for existing CI projects, must fill out the CI section of ProjectTrak by March 21, 2007. SANDAG will include these changes as part of the air quality conformity analysis for the 2007 RTP and re-determination to the 2006 RTIP.</td>
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<td>6.</td>
<td>DRAFT 8-HOUR OZONE ATTAINMENT PLAN FOR SAN DIEGO COUNTY</td>
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<td>The CWG will discuss the Draft 8-Hour Ozone Attainment Plan for San Diego County. The full document is available on the San Diego Air Pollution Control District Web site at: <a href="http://sdapcd.org/rules/wrkshps/OPlan.pdf">http://sdapcd.org/rules/wrkshps/OPlan.pdf</a>. A public workshop regarding the draft Attainment Plan will be held on April 2, 2007. The final draft plan will be presented to the Air Pollution District Board for approval on May 23, 2007.</td>
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7. **EMFAC 2007 UPDATE**

   The California Air Resources Board (ARB) will update the CWG on the status of the updated EMFAC 2007 emissions model and the schedule for its release.

8. **OTHER BUSINESS**

   The next meeting of the San Diego Region Conformity Working Group is scheduled for Wednesday, April 19, 2007, 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

March 21, 2007

AGENDA ITEM NO.: 2

Action Requested: INFORMATION

SUMMARY OF JANUARY 17, 2007, MEETING

Item #1: Introductions

Self-introductions were made. See attached attendance list.

Item #2: Summary of November 29, 2006, Meeting

Carl Selnick provided minor edits to the meeting notes. The corrections were noted and made.

Item #3: Public Comments/Communications

There were none.

Item #4: 2006 Regional Transportation Improvement Program (RTIP) Amendment No. 2

Rachel Kennedy, SANDAG, noted that Caltrans and local jurisdictions have requested that SANDAG amend the 2006 RTIP to include several project changes. A list of exempt projects was distributed to the Conformity Working Group (CWG) on December 1, 2006, for interagency consultation. No significant comments were received. The Transportation Committee is scheduled to take action on Amendment No. 2 at its January 19, 2007, meeting.

Item #5: 2007 Regional Transportation Plan (RTP) Status Report

Ms. Kennedy provided the CWG with an update on the development of the 2007 RTP. The SANDAG Public Involvement Program (PIP) was approved by the SANDAG Board in October 2006. One element of the PIP is the mini-grant program, which has provided small grants to community organizations to conduct outreach. SANDAG staff will provide an update of the outreach efforts at the next CWG meeting.

Ms. Kennedy also noted that an update of the Regional Arterial System (RAS) is currently underway. A letter soliciting modifications to the RAS was distributed to the cities and county in December 2006. Staff has received a number of proposed modifications and is evaluating them for concurrence with the Transportation Committee adopted RAS screening criteria. It is anticipated the revised RAS will go to the Transportation Committee and Board of Directors for approval in April 2007. The revised network will be included in the 2007 RTP.
Staff has been working on developing the 2007 RTP transportation networks. On January 19, 2007, SANDAG staff will provide the Transportation Committee with a report on the 2007 RTP fiscally unconstrained network. The CWG was informed that the Transportation Committee report is available on the SANDAG Web site. The 2007 unconstrained network is based on the MOBILITY 2030 unconstrained network and incorporates recommendations from Caltrans, MTS, NCTD, and the Independent Transit Peer Review, which was conducted in 2006. This network is anticipated to cost $80 billion. The Board will discuss revenue sources to be considered in the reasonably expected RTP scenario at its February retreat.

It is anticipated that draft revenue constrained and reasonably expected 2007 RTP scenarios will be brought to the Transportation Committee and Board in March for discussion and for adoption in April. Jean Mazur, FHWA, noted the need to discuss the way in which projects are listed in the 2007 RTP.

**Item #6: EMFAC 2007 Update Release**

Dennis Wade, ARB, did not have an update on the release date for the revised version of EMFAC 2007. Mike Brady inquired if the letter from FHWA meant that the six-month grace period for using EMFAC 2002 would start upon the release of the revised EMFAC 2007. Jean Mazur, FHWA, stated that was correct.

**Item #7: Status Report on the Development of the State Implementation Plan (SIP) for 8-Hour Ozone**

Carl Selnick, APCD, noted that the draft SIP had not been released in December. The draft may be released by the end of January 2007. The current schedule is for the SIP to go to both the APCD Board and ARB in May for adoption. APCD anticipates a workshop at the end of February 2007 and having a revised draft in late March. Mr. Selnick hopes that the revised EMFAC 2007 will be available in time for APCD to include the final budget numbers in the workshop draft SIP.

**Item #8: Recent District of Columbia Circuit Court Decisions Regarding 8-Hour Ozone**

The CWG discussed two recent court decisions and their effects on air quality conformity.

**Item #9: Transportation Improvement Program Amendments On and After July 1, 2007**

Jean Mazur, FHWA, provided information on the letter sent by FHWA regarding Transportation Improvement Program amendments on and after July 1, 2007. Ms. Mazur confirmed that MPOs with SAFETEA-LU-compliant TIPs who are making progress on their SAFETEA-LU-compliant RTPs can make amendments to their TIP after July 1, 2007. Ms. Mazur noted that the amendments must conform to the RTP and not affect the regional emissions analysis.

Ms. Mazur also noted that start date of the six-month grace period for using EMFAC2002 for conformity analysis had been delayed to coincide with the future release of the updated EMFAC2007 model.

**Item #10: Other Business**

The next meeting of the CWG is scheduled for February 21, 2007, from 10:30 a.m. to 12 noon at SANDAG.
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<thead>
<tr>
<th>Name</th>
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<tr>
<td>Mike Brady (phone)</td>
<td>Caltrans</td>
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<td>Sandy Johnson</td>
<td>Caltrans</td>
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<td>Jean Mazur (phone)</td>
<td>FHWA</td>
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<td>Karina O’Connor (phone: item 8)</td>
<td>EPA</td>
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<td>Carl Selnick</td>
<td>APCD</td>
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<td>Dennis Wade (phone)</td>
<td>ARB</td>
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<td>Carla Walecka (phone)</td>
<td>TCA</td>
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<td>Elisa Arias</td>
<td>SANDAG</td>
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<td>Rachel Kennedy</td>
<td>SANDAG</td>
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WORKING DRAFT APPENDIX B
AIR QUALITY PLANNING AND TRANSPORTATION CONFORMITY

BACKGROUND

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

The U.S. EPA requires that each state containing non-attainment areas develop plans to attain the NAAQS by a specified attainment deadline. These attainment plans are called State Implementation Plans. The San Diego County Air Pollution Control District (APCD) prepares the San Diego portion of the California State Implementation Plan (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 February 24, 2006, the SANDAG Board of Directors made a finding of conformity of the 2030 Revenue Constrained RTP: 2006 Update and adopted this Plan. The U.S. DOT made its conformity determination on March 29, 2006. The 2006 RTIP was found in conformity with the SIP by the SANDAG Board of Directors and by the U.S. DOT on August 4, 2006, and on October 2, 2006, respectively.


On April 15, 2004, the U.S. EPA designated the San Diego air basin as non-attainment for the new 8-Hour ozone standard. This designation took effect on June 15, 2004. The air basin has been classified as a basic non-attainment area under Subpart 1 of the Clean Air Act and the attainment date for the 8-Hour ozone standard is June 15, 2009. Several areas that are tribal lands in eastern San Diego County were excluded from the non-attainment designation. As shown in Figure B.1 on page 15 La Posta Areas #1 and #2, Cuyapaie, Manzanita, and Campo Areas #1 and #2 are attainment areas for the 8-Hour Ozone NAAQS. In cooperation with the San Diego APCD and SANDAG, the California Air Resources Board (ARB) must develop an 8-Hour Ozone Attainment Plan for submission to the U.S. EPA by June 15, 2007. On March 2, 2007, the APCD released a Draft 8-Hour Ozone Attainment Plan for the San Diego County, which is undergoing public review and comments.

As required by the Final Transportation Conformity Rule Amendments for the New 8-Hour Ozone and PM2.5 National Ambient Air Quality Standards of July 2004, the SANDAG Board of Directors and the U.S. DOT made a finding of conformity of the 2030 RTP and 2004 RTIP, as amended, prior to June 15, 2005.
The San Diego region also has been designated by the U.S. EPA as a federal maintenance area for the Carbon Monoxide (CO) standard. On November 8, 2004, ARB submitted the 2004 Revision to the California State Implementation Plan for Carbon Monoxide to the U.S. EPA. Effective January 30, 2006, U.S. EPA has approved this maintenance plan as a SIP revision.

**TRANSPORTATION CONFORMITY: MODELING PROCEDURES WORKING DRAFT**

**Introduction**

SANDAG has updated the Revenue Constrained Scenario of the 2007 RTP to conduct the required air quality conformity analysis. Conformity of the 2030 Revenue Constrained RTP 2006 Update expires on March 29, 2010. However, to comply with SAFETEA-LU standards SANDAG is updating the RTP. The 2007 RTP will provide information on revenue assumptions and the Revenue Constrained Scenario.

**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 Final 2030 Regional Growth Forecast Update, which was accepted by the SANDAG Board of Directors on September 8, 2006, for use in the 2007 RTP.

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

The Final 2030 Regional Growth Forecast Update is based solely on the adopted general plans and community plans and policies of the 18 cities. For the unincorporated area, the forecast is based on the most recent (June 2005) version of the County’s GP2020 plan update, as directed by the Board of Supervisors.

In October 2006, SANDAG consulted with the San Diego Region Conformity Working Group (CWG) on the use of the Final 2030 Regional Growth Forecast Update for the air quality conformity analysis of the 2007 RTP. Previously, both U.S. DOT and U.S. EPA concurred that approved plans should be used as input in the air quality conformity process. Table B.1 shows the regional population and employment growth forecast for the San Diego region through 2030.
### TABLE B.1—SAN DIEGO REGIONAL POPULATION AND EMPLOYMENT FORECAST

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population</th>
<th>Total Employment</th>
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<tbody>
<tr>
<td>2004</td>
<td>3,013,014</td>
<td>1,449,349</td>
</tr>
<tr>
<td>2010</td>
<td>3,245,279</td>
<td>1,573,742</td>
</tr>
<tr>
<td>2020</td>
<td>3,635,855</td>
<td>1,741,033</td>
</tr>
<tr>
<td>2030</td>
<td>3,984,753</td>
<td>1,913,682</td>
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Source: SANDAG, September 2006

### Transportation Modeling

SANDAG follows a widely used four-step transportation modeling process of trip generation, trip distribution, mode choice, and assignment to forecast travel activity in the San Diego region. After trip generation, several iterations through the trip distribution, mode choice, and assignment steps are made to bring travel demand into equilibrium with supply. Finally, travel model results are combined with additional input and output functions to form the complete modeling chain. Updated detailed documentation of travel forecasting procedures is completed and should be available on SANDAG’s website in May 2007.

The estimates of regional transportation-related emissions analysis meet the requirements established in the Transportation Conformity Rule, Sections 93.122(b) and 93.122(c). These requirements relate to the procedures to determine regional transportation-related emissions, including the use of network-based travel models, methods to estimate traffic speeds and delays, and the estimation of vehicle miles of travel.

TransCAD is the transportation planning computer package used by SANDAG to provide a framework for performing much of the computer processing involved with modeling. Another software package used extensively in the modeling process is ArcInfo. This geographic information system (GIS) maintains, manipulates, and displays transportation, land use, and demographic data. SANDAG has written numerous programs that provide a linkage between TransCAD and ArcInfo. Other programs manipulate data and perform some modeling functions such as trip generation and mode choice.

A number of data files and surveys are used to calibrate the transportation models. These include:

- 1995 Travel Behavior Survey
- 2001 Caltrans Statewide Travel Survey
- 2001-2003 San Diego Regional Transit Survey
- External Trip Surveys
- Traffic Generation Studies
- 1991 San Diego Visitor Survey
- 2000 Census Transportation Planning Package

Working Draft March 2007
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
- transit networks used to describe existing and planned public transit service

**Highway Networks**

The regional highway networks in the 2007 RTP include all roads classified by local jurisdictions in their General Plan circulation elements. These roads include freeways, expressways, and the Regional Arterial System (RAS). The RAS consists of all conventional state highways, prime arterials, and selected major streets. In addition, some local streets are included in the networks for connectivity between zones.

The route improvements and additions in the 2007 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 FHWA 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 SR 125 South, SR 11 projects and SR 241 are the only modeled toll facilities in the San Diego region.

In addition, several managed/HOV lanes are included in the Revenue Constrained Plan. Facilities with proposed managed lanes include I-5, I-15, 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 C or better.

Based on the networks and programs described above, the transportation forecasts of the 2007 RTP differentiate between five highway modes: drive alone non-toll, drive alone toll, shared-ride non-HOV/non-toll shared-ride HOV/non-toll, and shared-ride HOV/toll.

SANDAG normally maintains networks for 2004 (the 2030 Regional Growth Forecast base year) and the years 2010, 2020, and 2030. A 2014 network also was created to conduct air quality conformity analyses of the 2007 RTP to the 2014 1-Hour ozone emissions budgets. Additionally, a 2009 network was created to conduct the interim emissions test for the 8-Hour ozone standard attainment year. Finally, a 2008 network was developed to perform the conformity analysis to the draft 8-Hour ozone on-road motor vehicle emissions budget included in the Draft 8-Hour Ozone Attainment Plan for the San Diego region.

A list of the major highway projects included in the conformity analysis and their implementation phasing will be included in the draft Air Quality Conformity Determination. The Regional Arterial System and Transportation Project Evaluation Criteria and Rankings will also be included in the 2007 RTP. Locally funded

*Working Draft March 2007*
regionally significant projects also have been included in the air quality conformity analysis. These projects are funded with TransNet funds, a 20-year half-percent local sales tax for transportation that expires in 2008; TransNet extension funds, a 40-year, half-percent 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: commuter rail, trolley, regional bus rapid transit (BRT), corridor BRT, limited express bus, express bus, and local bus. BRT service would have stations and operating characteristics similar to commuter rail and trolleys, but service would be provided by advanced design buses operating on HOV lanes, some grade-separated transit ways, and surface streets. Once TransCAD transit networks have been built, TransCAD finds minimum time paths between transit access points (TAPs). TAPs are selected transit stops that are used to represent walk and auto access to the transit system. The following four sets of paths are created for modes:

- AM peak period local bus
- AM 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 $1.75 and $4.00 depending on the type of service,
- trolleys which charge a variable fare of between $1.25 and $3.00 depending on how many stations are traversed,
- commuter rail which has a zone-based fare of between $3.50 and $4.75,
- proposed regional BRT routes which are assumed to charge a distance based fare of between $0.14 and $0.60 per mile that replicates limited express and commuter rail fares, and
- proposed corridor BRT routes which are assumed to use trolley station-based fares.

Fares are expressed in 2004 dollars and are assumed to remain constant in inflation-adjusted dollars over the forecast period.

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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 2007 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 (2008, 2009, 2010, 2014, 2020, and 2030). The draft air quality conformity document will contain 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: home-work, home-college, home-school, home-shop, home-other, work-other, and other-other, serve passenger, visitor, and airport. The model computes person trips, which account for all forms of transportation including automobiles, trucks, taxicabs, motorcycles, public transit, bicycling and walking.

The trip generation model works by applying trip rates to zone level growth forecasts. The model calculates each of the trip ends separately, as trip productions and attractions. Trip production rates are expressed as trips per household while trip production rates vary by trip type and structure type. Trip attractions are expressed as trips per acre of nonresidential land use or trips per household. Trip attraction rates vary by trip type and land use category. The Final 2030 Regional Growth Forecast Update was used to produce trip generation forecasts for the years 2008, 2009, 2010, 2014, 2020, and 2030. Trip generation rates were established by utilizing data from traffic generator studies and expanding rates from the 1995 Travel Behavior Survey and 2001 Caltrans Statewide Travel Survey.

SANDAG’s 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 tele-working and e-commerce. Reduction factors of three to five percent were applied to selected trip purposes and land uses.

**Trip Distribution**

After trip generation, trip movements between zones are determined using a doubly-constrained gamma-function gravity model form of the trip distribution model. Inputs to the trip distribution model include zone level trip generation forecasts by trip type, zone-to-zone impedances, and gamma function parameters by trip type. The model is designed to modify trip patterns in response to new development and reflects shortened trip lengths in the vicinity of Smart Growth, mixed-use developments. The model also modifies trip patterns as new roadways are added.

The model is calibrated to match observed trip length frequencies from the 1995 Travel Behavior Survey and 2001 Caltrans Statewide Travel Survey. Zone-to-zone impedances are a composite measure of peak and off-peak travel times and costs by highway, transit and non-motorized modes. Several iterations of trip distribution, mode choice, and assignment are performed to bring model-estimated highway travel into equilibrium with supply. After each iteration or feedback loop, impedances are recomputed to reflect changes in highway congestion.

*Working Draft March 2007*
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 2001 Travel Behavior Survey trip tables by mode and income and 2001-2003 Regional Transit Survey transit trip characteristics. Regional level Census 2000 work trip mode shares were also used to fine-tune mode share estimates.

Highway and transit travel times reflect highway congestion effects from the final iteration of the feedback loop. The model produces a.m. peak, p.m. peak, and off-peak period trip tables for vehicles and transit riders. The a.m. peak period is from 6 to 9 in the morning and the p.m. peak period is from 3 to 6 in the afternoon. The off-peak period covers the remaining 18 hours of the day. A series of mode choice model runs were performed in the course of analyzing the 2007 RTP through the complete modeling process.

Highway and Transit Assignment

Highway

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

SANDAG loads traffic using TransCAD’s “Multi-Modal Multi-Class Assignment” function. The highway assignment model works by finding roads that provide the shortest travel impedance between each zone pair. Trips between zone pairs are then accumulated on road segments making up minimum paths. Highway impedances consider posted speed limits, signal delays, congestion delays, and costs. The model computes congestion delays for each segment based on the ratio of the traffic volume to roadway capacity. Motorists may choose different paths during peak hours when congestion can be heavy and off-peak hours when roadways are typically free flowing. For this reason, traffic is assigned separately for a.m. peak, p.m. peak, and off-peak periods. Vehicle trip tables for each scenario reflect increased trip-making due to population growth and variations in travel patterns due to the alternative transportation facilities/networks proposed.

Model accuracy is assessed by comparing model estimated traffic volumes with actual traffic counts obtained through SANDAG's 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 Transit Access Point (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 SANDAG’s 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,
- Centre City screenline crossings, which may lead to changes in parking costs, boardings by stop location, which may indicate problems which 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.

Motor Vehicle Emissions Modeling

Emissions Model

Working Draft March 2007
In October 2002, ARB released EMFAC 2002, 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 2002 for use in conformity determinations on April 1, 2003.

The EMFAC 2002 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 2007 RTP will be conducted using EMFAC 2002’s Burden mode. Projections of daily regional emissions will be prepared for reactive organic gases (ROG), nitrogen oxides (NOx), and carbon monoxide (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. 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, and motor-home. The fuels modeled are gasoline, diesel, and electrically powered vehicles. Technology categories can be grouped into catalyst, noncatalyst, and diesel.

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.

In addition, the draft analysis also will be conducted using the EMFAC 2007 emissions model (version dated November 1, 2007). ARB anticipates releasing an updated version of EMFAC 2007 shortly. Information on the EMFAC 2007 model will be provided with the draft Air Quality analysis.

**Regional Emissions Forecasts**

Regional transportation forecasts were initiated in April 2007. Output from the TransCAD model was then reformatted and adjusted to be useful for emissions modeling.

**8-Hour Ozone Standard**

The transportation conformity rule prescribes different conformity tests for 8-Hour ozone areas that have 1-Hour Ozone State Implementation Plan (SIP) budgets and for areas that do not have 1-Hour Ozone SIPs.

Working Draft March 2007

Prior to the October 20, 2006 Court decision\(^1\) SANDAG consulted with the CWG on various options for interim emissions analysis. The approach agreed by the CWG prior to the Court decision was as follows:

- Under the new 8-Hour ozone standard, the San Diego air basin falls under Boundary Scenario 2, where the 8-Hour ozone area is smaller than and within the 1-Hour ozone boundary. Figure B.1, on page 15, shows the Eastern San Diego County attainment areas, which are tribal lands (Cuyapaipe, La Posta #1 and #2, Campo #1 and #2, and Manzanita). The CWG agreed to use the existing approved budget for the entire 1-Hour ozone non-attainment area for the analysis years for which 1-Hour ozone budgets are available (2010 and 2014) and for the remaining analysis years (2020 and 2030).
- To conduct the interim emissions test for 2009, the CWG agreed to use the no-greater-than-2002 test for the attainment year 2009.

The October 20, 2006 Court decision requires that conformity to the 8-Hour ozone standard for the attainment year 2009 be conducted using approved 1-Hour ozone budgets. The 1994 1-Hour Ozone SIP includes emissions budget for TOG and NOx for the attainment year 1999. Therefore, to demonstrate conformity of the 2007 RTP to the attainment year 2009 SANDAG is required to use the 1-Hour Ozone SIP budgets. In March 2007, the CWG will be consulted on the new approach described above for the 8-hour ozone emissions analysis of the 2007 RTP.


The analysis years were selected to comply with Sections 93.106(a) (1) and 93.118 (a) of the Transportation Conformity Rule. According to these sections, the first horizon year (2010) must be within ten years from the base year used to validate the regional transportation model (2004), the last horizon year must be the last year of the transportation plan’s forecast period (2030), and the horizon years may be no more than ten years apart (2020). In addition, as explained above, the interim regional emissions analysis for the 8-Hour ozone standard must be conducted for the emissions budgets in the applicable SIP (ROG and NOx budgets for 2010 and 2014). Finally, emissions forecasts for 2009 were prepared to conduct the interim attainment year 2009 test.

If the budgets from the 8-Hour Ozone Attainment Plan for San Diego County have been found adequate by the U.S. EPA and EMFAC 2007 has been approved for use in conformity determinations at the time of the 2007 RTP adoption, the SANDAG Board will be asked to make a finding of conformity for the years 2008, 2010, 2020, and 2030 using EMFAC 2007. If the new 8-Hour ozone budgets are not applicable yet at the time of the 2007 RTP adoption, the Board will be asked to make a finding of conformity for the years 2009, 2010, 2014, 2020, and 2030 using EMFAC 2002. Both conformity analyses will be included in the Draft Air Quality Conformity Determination that will be released for public comment in June 2007.

\(^1\) United States Court of Appeals for the District of Columbia Circuit, No. 04-1291, October 20, 2006
**CO Standard**

CO regional emissions were projected for 2010, 2018, 2020, and 2030 for the conformity determination of the 2007 RTP. CO emissions are based on the winter season.

**Emissions Modeling Results**

An emissions budget is the part of the SIP that identifies emissions levels necessary for meeting emissions reduction milestones, attainment, or maintenance demonstrations.

To determine conformity of the 2007 RTP, the plan must comply with the emission analysis described in the Regional Emissions Forecast section.

A summary of the 2007 RTP air quality conformity analysis for the 8-Hour ozone standard will be provided in the draft air quality analysis document.

The air quality conformity analysis for carbon monoxide demonstrating projected CO emissions from the 2007 RTP will also be included in the draft air quality analysis document.
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).

A list of exempt projects will be included in the draft air quality analysis document.

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. No TCMs have been removed or substituted from the 1-Hour Ozone Maintenance Plan, which is the applicable SIP. 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 2007 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 2007 RTP at meetings of the San Diego Region Conformity Working Group (CWG), as follows:

- On May 17, 2006, SANDAG staff presented the schedule for the preparation of the 2007 RTP and its conformity analysis.
- On September 20, 2006 SANDAG staff presented information on the draft Public Involvement Program (PIP) for the 2007 RTP and solicited input from the CWG. Staff also provided information on the revenue constrained and reasonably expected financial assumptions.
- On October 18, 2006 SANDAG staff presented information on the revenue constrained financial assumptions and on the 2030 Regional Growth Forecast Update.
- On November 29, 2006, SANDAG staff presented additional information on the 2007 RTP including: the travel demand model and an update on public outreach and consultation efforts.
- On March 21, 2007 SANDAG consulted the CWG on the conformity criteria and procedures to be followed to determine conformity of the 2007 RTP including: the latest emissions model; emissions budgets and interim emissions analysis; consultation, public involvement and outreach; and Transportation Control Measures. Staff also noted that the air quality conformity modeling would begin in April 2007.
- On April 18, 2007, SANDAG staff will present the draft list of revenue-constrained highway projects, transit services, and exempt projects as well as revenues and expenditures projected through 2030 to the CWG.
- On May 9, 2007, SANDAG will release the draft air quality conformity analysis of the 2007 RTP to the San Diego Region CWG for a 30-day review and comment period. On May 16, 2007, the draft air quality analysis will be discussed at the meeting of the San Diego Region CWG and comments will be incorporated in this report.

On June 22, 2007, the Board of Directors will be asked to authorize the distribution of the draft 2007 RTP and draft conformity analysis for public review and comment. A Public Hearing will be held in summer 2007.

Members of the public are welcomed to provide comments at meetings of the San Diego Region CWG, the Transportation Committee, and the SANDAG Board of Directors.

Working Draft March 2007
Figure B.1
Eastern San Diego County Attainment Areas for the 8-Hour Ozone NAAQS

Eastern San Diego County Attainment Areas For The 8-Hour Ozone NAAQS

San Diego County
Mr. Gary Gallegos, Executive Director  
San Diego Association of Governments  
Wells Fargo Plaza  
401 B Street, Suite 800  
San Diego, CA 92101

Dear Mr. Gallegos:

SUBJECT: Use of Latest Planning Assumptions in Transportation Conformity Determinations

The purpose of this letter is to provide guidance to the metropolitan planning organizations (MPOs) regarding the use of updated vehicle fleet data in conformity determinations. The California Air Resources Board (CARB) has decided that there would be no updates to the vehicle fleet data as contained in the 2007 version of EMFAC released in November, 2006. Therefore, beginning February 1, 2007, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA) and the Environmental Protection Agency (EPA) are providing the MPOs with a six-month transitional period for using the new vehicle fleet data in conformity determinations. In order for FHWA and FTA to approve conformity determinations using the older fleet data, the emissions modeling must be started by August 1, 2007. Conformity determinations where the emissions modeling is started after August 1, 2007, must use the updated vehicle fleet data. This letter supersedes our letter of January 5, 2007.

Please take these requirements into consideration as you schedule new conformity determinations on regional transportation plans and/or transportation improvement programs. CARB’s long-term commitment to update the vehicle fleet data every three years, independent of future EMFAC model updates, should eliminate issues related to the age of vehicle fleet data in the future. If you have any questions regarding the use of the updated vehicle fleet data, please contact Ms. Jean Mazur at (916) 498-5732.

Sincerely,

/s/ Steve Luxenberg

For

Gene K. Fong
Division Administrator

cc: (email)
Rachel Kennedy, SANDAG
Karina O’Connor, EPA
Dennis Wade, CARB
Mike Brady, Caltrans
Ray Sukys, FTA
Wade Hobbs, FHWA
Jean Mazur, FHWA

JGM/ac
UPDATE ON 2007 REGIONAL TRANSPORTATION PLAN PUBLIC OUTREACH

Introduction

SANDAG approved the comprehensive public involvement program for developing the 2007 Regional Transportation Plan (RTP) at its October 27, 2006, Board Meeting. The program was developed following outreach and input from a number of committees, working groups, and other stakeholders. SANDAG also followed guidelines for public involvement programs that are included in the new Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The draft plan was presented, discussed, and distributed to the Regional Planning Stakeholders Working Group, Social Services Transportation Advisory Council, Transportation Committee, and other community and regional stakeholders.

A major goal of this public involvement effort is to reach out to nontraditional as well as traditional audiences to include them in the transportation planning process. This program will help ensure that environmental justice issues are addressed and that interested members of the public have ample opportunities and ways to understand and provide input while the RTP is in its early stages. This program will be combined with the public involvement efforts to develop the Coordinated Public Transit and Human Services Transportation Plan (“Coordinated Transportation Plan”) that will serve as the San Diego region program to improve services for people with disabilities, older adults, and individuals with low incomes. Early public involvement and comment about the RTP and Coordinated Transportation Plan are important to SANDAG as part of developing a transportation public policy blueprint that meets the travel needs of residents, business people, and visitors.

Discussion

Public Involvement Program Objectives

- Solicit participation from a broad range of groups and individuals in the 2007 RTP and Coordinated Transportation Plan development and decision-making process
- Raise awareness and offer multiple opportunities and ways for public input about the 2007 RTP and the Coordinated Transportation Plan
- Provide information to San Diego region residents and other stakeholders
• Stimulate dialogue about the transportation challenges facing the San Diego region

• Develop and incorporate into the Plans realistic solutions that address the diverse mobility needs of the region’s residents, business people, and visitors

• Build public support for transportation improvements described in the 2007 RTP and the Coordinated Transportation Plan

Implement Community-Based Outreach Program

To help ensure diverse and direct input into the 2007 RTP from residents throughout the San Diego region, SANDAG implemented an innovative program to secure participation from communities and individuals typically not involved in the regional transportation planning process. SANDAG awarded grant funding to the following community-based organizations through a competitive bid process. The selected organizations conducted outreach activities to secure public involvement from stakeholders in their communities, to engage community-based participation in setting regional transportation priorities, and to generate feedback on the RTP. This program is modeled after a similar successful effort SANDAG conducted during the development of the Regional Comprehensive Plan.

The community-based organizations provided their reports to SANDAG in December 2006. The comments and input will be included in the draft Regional Transportation Plan that is scheduled to be distributed for public review in June 2007.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Community Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Bay Community Services</td>
<td>Chula Vista, Otay Ranch, South County communities</td>
</tr>
<tr>
<td>Able-Disabled Advocacy</td>
<td>People with disabilities throughout San Diego County</td>
</tr>
<tr>
<td>Bayside Community Center</td>
<td>Linda Vista community outreach to seniors and communities that speak Vietnamese, Chinese, and Spanish</td>
</tr>
<tr>
<td>City Heights CDC</td>
<td>Outreach to residents in greater City Heights Mid-City communities that include: seniors, low income, and those involved in revitalizing these neighborhoods</td>
</tr>
<tr>
<td>All Congregations Together</td>
<td>Communities in the southeastern part of the City of San Diego and the Diamond Business District</td>
</tr>
<tr>
<td>El Cajon Collaborative</td>
<td>El Cajon/East County community members, businesses, schools, social service &amp; health care providers, and law enforcement</td>
</tr>
<tr>
<td>Escondido Education COMPACT</td>
<td>High school youth and college student outreach in Escondido, San Marcos, and North Inland areas; will include youth and college students in outreach effort to solicit input on transportation issues</td>
</tr>
</tbody>
</table>
Distribute/present information at regularly scheduled meetings

Information on the RTP is being provided at SANDAG committee meetings, jurisdiction council/board meetings, local/regional agency meetings, city and county community planning groups, chambers of commerce, economic development organizations, community and business group meetings, public service organizations, and other stakeholder groups.

Develop Web pages for RTP outreach effort

SANDAG has dedicated Web pages on the SANDAG Web site to provide information and timely updates on the RTP development process. Promote upcoming meetings and events and provide options for feedback.

Distribute information via brochures, newsletters, and other publications

Regular RTP updates are being distributed in SANDAG publications such as the electronic rEgion newsletter, SANDAG Board Actions, RideLink newsletter, and other publications to provide updates on the RTP and to solicit feedback. Send news items to jurisdictions and other organizations to promote the RTP.

Implement media outreach program

Provide ongoing information to local/regional media to secure coverage in print and broadcast news. Write and secure publication of opinion pieces by SANDAG directors or other regional leaders on the RTP.

Promote outreach through SANDAG Speakers Bureau

Contact organizations throughout region for opportunities to conduct RTP workshops or to present information and solicit feedback on the 2007 RTP.

Hold subregional meetings/workshops

As the draft RTP is developed, hold subregional meetings/workshops to solicit additional feedback. Involve the Regional Planning Stakeholders Working Group in the planning efforts for these meetings. Partner with member agencies, city and county community planning groups, chambers of commerce, economic development organizations, community and business group meetings, public service organizations, and other stakeholder groups to secure broad participation at the workshops. Regional meetings and workshops for the Coordinated Plan also will be held.

Hold Public Hearings

As a final step in the 2007 RTP development process, hold public hearings on the Regional Transportation Plan and its associated Environmental Impact Report.
Budget

Many of the activities and support are covered in both the FY 2007 and 2008 Overall Work Programs and include staff support for meetings, outreach efforts, graphics support, Web support, workshop planning activities, media outreach, and speaking engagements. Direct expenses budgeted for this project are $70,000. These expenses are outlined below.

<table>
<thead>
<tr>
<th>RTP Public Outreach Activity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Based Grants</td>
<td>$48,623</td>
</tr>
<tr>
<td>Printing: direct mail, flyers, brochures, etc.</td>
<td>6,000</td>
</tr>
<tr>
<td>Advertising: for workshops, public hearings, etc.</td>
<td>10,000</td>
</tr>
<tr>
<td>Workshop expenses: meeting supplies and materials</td>
<td>5,377</td>
</tr>
<tr>
<td>Total</td>
<td>$70,000</td>
</tr>
</tbody>
</table>

Additional funding has been allocated for research such as a regionwide telephone survey and subregional focus groups to develop a broader spectrum of input into the 2007 RTP and help SANDAG in its policy deliberations in the coming months. An Executive Summary from the telephone survey is attached.

<table>
<thead>
<tr>
<th>Research Activities</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone Survey</td>
<td>$50,000 - $60,000</td>
</tr>
<tr>
<td>Focus Groups</td>
<td>$5,000 per focus group (up to six focus groups)</td>
</tr>
<tr>
<td>Total</td>
<td>$90,000</td>
</tr>
</tbody>
</table>

Attachment: 1. Regional Infrastructure Priorities Study, Final Survey Report

Key Staff Contact: Anne Steinberger, (619) 699-1937, ast@sandag.org
INTRODUCTION

In the past two decades, the San Diego region has struggled with how to accommodate a growing population while maintaining the overall quality of life for residents. Between 1980 and 2000, the region grew by nearly one million residents. By 2030, the population is expected to grow by an additional one million residents—reaching approximately four million total. ¹ Developing strategies to effectively deal with a growing population is chief among all of the long-term challenges to the region’s quality of life and sustainability because of the direct and indirect impacts growth has on many other factors that shape how people live, work and play—including housing availability, cost of living, employment opportunities, adequacy of transportation infrastructure, traffic congestion and mobility, air quality, and conservation.

In the Regional Comprehensive Plan (RCP), SANDAG set forth both a vision and an integrated plan for better addressing many of the growth-related issues that affect the region. The RCP emphasizes the importance of considering regional infrastructure needs as an integrated system, as well as recognizing the relationship between land use planning, transportation planning, and associated infrastructure investments. Consistent with this philosophy, the RCP includes an Integrated Regional Infrastructure Strategy (IRIS) that focuses on eight areas of regional infrastructure: transportation, parks and open space, stormwater management, education, energy supply and delivery systems, water supply and delivery systems, wastewater, and solid waste, recycling, and disposal.

Although many of the aforementioned infrastructure areas have access to annual funding, the amount of funding available through existing revenue streams is in most cases insufficient to meet the growing needs of the region. Moreover, several key infrastructure areas lack a dedicated funding source altogether: habitat preservation, sand replenishment, and stormwater management. The fact that the infrastructure needs of the region exceed the available revenue underscores the importance of prioritizing investments, leveraging state, federal and private funds where possible, and identifying opportunities to secure additional local funding sources in the future.

MOTIVATION FOR SURVEY

The primary objective of the study described in this report was to engage the public in the process of prioritizing regional infrastructure improvements and identifying potentially viable funding solutions. In short, what do residents of the San Diego region consider to be the most-needed infrastructure improvements? And, given the limited funding currently available, which (if any) among a variety of potential new funding mechanisms are they willing to support in order secure the revenue needed to make select infrastructure improvements? Ultimately, the survey results and analyses presented in this report will provide the SANDAG Board of Directors and staff with information that can be used to make sound, strategic decisions with respect to addressing the region’s infrastructure gaps—now and in the future.

METHODOLOGY OVERVIEW

A full description of the methodology used for this study is included later in this report (see Methodology on page 45). In brief, a total of 2,000 people who reside in the San Diego region were selected using stratified random sampling.

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To accommodate SANDAG’s interest in obtaining reliable parameter estimates for the region as a whole, as well as within the six planning areas identified in Figure 1, the study employed a strategic oversample by planning area to balance the statistical margins of error associated with estimates at the planning area level. To adjust for the oversampling, the raw data were then weighted according to likely voter population estimates prior to analyses and presentation. The results presented in this report are the weighted results, which are representative at the region-wide level, as well as within the six planning areas.

**FIGURE 1  SURVEY UNIVERSE AND PLANNING AREAS**

**ORGANIZATION OF REPORT** This report is designed to meet the needs of readers who prefer a summary of the findings as well as those who are interested in the details of the results. For those who seek an overview of the findings, the sections titled *Just the Facts* and *Conclusions* are for you. They provide a summary of the most important factual findings of the survey in bullet-point format and a discussion of their implications. For the interested reader, this section is followed by a more detailed question-by-question discussion of the results from the survey by topic area (see *Table of Contents*), as well as a description of the methodology employed for collecting and analyzing the data. And, for the truly ambitious reader, the questionnaires used for the interviews are contained at the back of this report and a complete set of crosstabulations for the study results is contained in Appendix A.
ACKNOWLEDGEMENTS True North would like to thank the staff at SANDAG who participated in the design of this study. Their expertise and insight improved the overall quality of the research presented here.

DISCLAIMER The statements and conclusions in this report are those of the authors (Dr. Timothy McLarney and Richard Sarles) at True North Research, Inc. and not necessarily those of SANDAG. Any errors and omissions are the responsibility of the authors.

ABOUT TRUE NORTH True North is a full-service survey research firm that is dedicated to providing public agencies with a clear understanding of the values, perceptions, priorities and concerns of their residents and customers. Through designing and implementing scientific surveys, focus groups and one-on-one interviews, as well as expert interpretation of the findings, True North helps its clients to move with confidence when making strategic decisions in a variety of areas—such as planning, policy evaluation, performance management, organizational development, establishing fiscal priorities, and developing effective public information campaigns. During their careers, Dr. McLarney (President) and Mr. Sarles (Principal Researcher) have designed and conducted over 400 survey research studies for public agencies, including more than 200 studies for councils of government, municipalities and special districts.
JUST THE FACTS

The following is an outline of the main factual findings from the survey. For the reader’s convenience, we have organized the findings according to the section titles used in the body of this report. Thus, if you would like to learn more about a particular finding, simply turn to the appropriate report section.

GENERAL PERCEPTIONS OF REGION

• The overwhelming majority of respondents shared very favorable opinions of the quality of life in the San Diego region, with 35% reporting it is excellent and 51% stating it is good. Just 12% of residents indicated that the quality of life in the region is fair, and only 2% of residents used ‘poor’ or ‘very poor’ to describe the quality of life in the San Diego region.

• Approximately 43% of residents anticipated that the quality of life in the San Diego region will remain about the same in the future, 18% were optimistic and expected that it will improve, whereas just over one-third (35%) of residents anticipated that the livability in the region will decline in the future. An additional 4% of residents were unsure or unwilling to share their opinion.

• When provided an open-ended opportunity to list the change that they would most like local and regional governments to address so as to improve the quality of life in the region, the most commonly suggested changes centered on reducing traffic congestion and improving the transportation and transit systems, followed by making housing more affordable and available, improving infrastructure, improving the government process/leadership, and limiting growth/overcrowding.

RATING LOCAL ISSUES

• From a list of 15 regional issues, residents rated protecting water quality as the most important issue, followed by reducing traffic congestion, maintaining and repairing transportation infrastructure like roads and highways, improving public education, and protecting the environment.

• With respect to the same list of 15 issues, residents were most satisfied with current efforts to increase fire services, followed by efforts to preserve parks, open space and natural habitats, improve air quality, improve the local economy, and protect water quality. They were least satisfied with current efforts to reduce traffic congestion, manage growth and development, improve public education, and maintain and repair transportation infrastructure like roads and highways.

REGIONAL PRIORITIES

• When a subsample of 1,000 residents were asked to prioritize a list of specific transportation infrastructure improvements, they assigned the highest priority to maintaining and improving local streets and roads, followed closely by introducing new technologies to improve the efficiency of the transportation system and traffic flow, completing the local road network to improve connectivity and traffic flow, and adding lanes to existing freeways.
- At the other end of the spectrum, these same residents assigned comparatively lower priority ratings to expanding and improving the network of bike paths and facilities, building new rail lines, providing more frequent local bus service, and expanding high-speed express bus service on freeways and major streets.

- When a separate subsample of 1,000 residents were asked to prioritize a list of specific non-transportation infrastructure improvements, they assigned the highest priority to a variety of water quality protection efforts, including protecting sources of drinking water from contamination and pollution, keeping trash and pollution out of rivers, streams, lagoons, and lakes, keeping trash and pollution out of the bays and off local beaches, removing chemicals and bacteria from water sources and stormwater runoff, and protecting land around rivers, lakes, streams and lagoons to preserve water quality.

**FUNDING ALTERNATIVES**

Residents’ baseline willingness to fund priority infrastructure improvements through new financing mechanisms varied considerably depending on the type of mechanism and the rate.

- With respect to priority transportation infrastructure improvements, several mechanisms garnered majority support, including increasing the county-wide sales tax by one-quarter cent (62%) and one-half cent (59%), allowing solo drivers to use carpool lanes for a fee (52%), increasing the annual vehicle registration fee by $4 (51%) and $2 (62%), charging a fee of $2 per day on rental cars (55%), and increasing the fee on new commercial developments (58%). It is also worth noting that a majority (52%) of residents stated that they would support a property tax of $15 per year if the money would be dedicated to improving the public transit system in their community.

- With respect to priority non-transportation infrastructure improvements, funding solutions that garnered majority baseline support included increasing the county-wide sales tax by one-eighth (61%), one-quarter (56%), and one-half cent (50%), increasing property taxes by $15 per year (55%), increasing the transit occupancy tax (53%), charging a fee on rental cars of $4 (51%) or $2 (64%) per day, and increasing the developer fees on a new home (56%) and new commercial developments (67%).

**RELEVANT ATTITUDES**

- Traffic congestion was cited by 85% of residents as at least a moderate problem in their area.

- Water pollution was cited by 57% of residents as at least a moderate problem in their area.

- Air pollution was cited by 52% of residents as at least a moderate problem in their area.

- Lack of open space for habitat preservation was cited by 44% of residents as at least a moderate problem in their area.

- Lack of open space for recreation was cited by 38% of residents as at least a moderate problem in their area.
Two-thirds (67%) of residents indicated that the pace of growth in the San Diego region during the past five years has been too fast, whereas 28% stated that it has been about right and just 3% indicated that it has been too slow. An additional 3% were unsure or unwilling to share their opinion on this issue.

**AWARENESS OF SANDAG & TRANSNET**

- One-third (33%) of residents indicated that they had heard of *TransNet* prior to participating in the survey.
- When provided an open-ended opportunity to describe what they had heard about *TransNet*, 38% of respondents provided a transportation-related comment, 36% were unsure or could not recall what they had heard, 7% mentioned sales tax, 6% provided a general positive comment, 4% provided a negative comment, and 3% mentioned SANDAG.
- Although more than two-thirds (70%) of residents had heard of SANDAG prior to participating in the survey, many respondents who had heard the name were either not sure what it meant (37%) or were unable to describe SANDAG in a way that demonstrated that they had a full and accurate understanding of the agency. Overall, approximately 10% described SANDAG as a government or political Board, 8% recognized the agency's role with respect to the environment, a similar percentage (8%) mentioned regional planning issues and solutions, 7% mentioned transportation in general, and 5% cited the agency’s role with respect to infrastructure.
CONCLUSIONS

As noted in the Introduction, this study was designed to engage the public in the process of prioritizing regional infrastructure improvements and identifying potentially viable funding solutions. Whereas subsequent sections of this report are devoted to conveying the detailed results of the survey, in this section we attempt to “see the forest through the trees” by noting how the collective results of the survey answer some of the key questions that motivated the research.

The following conclusions are based on True North’s interpretations of the results, as well as the firm’s experience conducting similar surveys for government agencies throughout the State.

One of the more striking patterns to emerge from the survey is that although residents generally share a positive view of the current quality of life in the San Diego region, many are also concerned about the effects that growth and growth-related issues are likely to have on the livability of the region in the future. The vast majority (87%) of residents rated the current quality of life in the San Diego region as excellent or good, yet more than one-third (35%) also anticipated that the livability of the region will decline in the next ten years due in large part to population increases.

The public’s concern about the future livability of the region translates into a sense of urgency for developing strategies to effectively manage growth and development, reduce traffic congestion, maintain and repair regional infrastructure, and improve the availability and affordability of housing. These issues are not only widely perceived as being the keys to maintaining the quality of life in the San Diego region, they are also the areas in which residents identified the greatest need for positive change from their local and regional governments.

Although residents clearly recognize the value of maintaining and improving all types of infrastructure in the region, some improvements are viewed as higher priorities than others. With respect to transportation infrastructure, residents ranked maintaining and improving local streets and roads, introducing new technologies to improve the transportation system and traffic flow, and completing the local road network to improve connectivity and traffic flow as the top three regional priorities. Other top priorities included adding lanes to existing freeways, replacing out-dated transit vehicles and equipment with modern, energy efficient vehicles and equipment, and building intermodal hubs that improve the connectivity of the bus, train and bike networks.

With respect to non-transportation infrastructure improvements, residents consistently rated water-related improvements at the top of the priority scale. Of the 14 non-transportation infrastructure improvements tested, the top five priorities were protecting sources of drinking water from contamination and pollution, keeping trash and pollution out of riv-
Which potential new funding mechanisms are residents willing to support to make select infrastructure improvements?

Identifying specific infrastructure improvements as priorities for the San Diego region is one thing; a willingness to fund these improvements through additional fees, taxes and other financing mechanisms is quite another. Accordingly, one of the primary goals of this study was to profile how resident support for funding priority infrastructure improvements is contingent on the type of financing mechanism and the associated rate, where applicable.

Using a conservative method for estimating baseline support for different financing mechanisms, the study found reasonably strong levels of support for several different financing mechanisms. With respect to priority transportation infrastructure improvements, mechanisms that garnered majority support included increasing the county-wide sales tax by one-quarter cent (62%) and one-half cent (59%), allowing solo drivers to use carpool lanes for a fee (52%), increasing the annual vehicle registration fee by $4 (51%) and $2 (62%), charging a fee of $2 per day on rental cars (55%), and increasing the fee on new commercial developments (58%). A majority (52%) of residents also stated that they would support a property tax increase of $15 per year if the money would be dedicated to improving the public transit system in their community.

Similar patterns were found with respect to funding priority non-transportation infrastructure improvements. Approximately half of the funding solutions tested received majority support, including increasing the county-wide sales tax by one-eighth (61%), one-quarter (56%), and one-half cent (50%), increasing property taxes by $15 per year (55%), increasing the transit occupancy tax (53%), charging a fee on rental cars of $4 (51%) or $2 (64%) per day, and increasing the developer fees on a new home (56%) and new commercial developments (67%).
March 2, 2007

NOTICE OF WORKSHOP

FOR DISCUSSION OF THE PROPOSED
EIGHT-HOUR OZONE ATTAINMENT PLAN
FOR SAN DIEGO COUNTY

The San Diego County Air Pollution Control District (District) will hold a public meeting to discuss the proposed Eight-Hour Ozone Attainment Plan for San Diego County. Comments and questions concerning the proposal may be submitted in writing before or made at the meeting, which is scheduled as follows:

DATE: Monday, April 2, 2007
TIME: 1:00 p.m. – 3:00 p.m.
PLACE: San Diego County Air Pollution Control District
Main Conference Room
10124 Old Grove Road
San Diego, CA 92131

San Diego County is currently designated a Nonattainment Area for the eight-hour ozone National Ambient Air Quality Standard (NAAQS). By June 15, 2007, the District must submit to the U.S. Environmental Protection Agency (EPA), through the California Air Resources Board (ARB), a State Implementation Plan (SIP) identifying control measures and associated emission reductions as necessary to demonstrate attainment by June 15, 2009. The proposed Eight-Hour Ozone Attainment Plan addresses and complies with these requirements.

Ozone is formed by chemical reactions of “precursor” pollutants—oxides of nitrogen (NOx) and volatile organic compounds (VOC)—in the presence of ultraviolet radiation (strong sunlight). NOx and VOC emissions are mostly the result of fossil fuel combustion and solvent use.

Air quality control in California is a shared responsibility among local, State, and federal agencies. Over the past two decades, ozone air quality in San Diego County has improved significantly due to comprehensive control strategies implemented to reduce pollution from mobile and stationary emission sources. These control strategies were primarily designed to address the former one-hour ozone NAAQS and have resulted in substantial reductions in ozone precursor emissions, such that the region is now close to attaining the eight-hour ozone NAAQS. In fact, since 1999 only one air monitoring location (Alpine) has recorded violations of the eight-hour ozone standard. Furthermore, ongoing emission control regulations will continue reducing ozone precursor
emissions for the foreseeable future. Therefore, the strategy to expeditiously attain the eight-hour ozone NAAQS in San Diego County relies heavily on existing District, State, and federal regulations. Two additional stationary source emission control measures are being incorporated into the SIP: Architectural Coating Rule 67.0, amended in 2001; and new solvent cleaning rules (67.6.1 and 67.6.2) planned for adoption in 2007 and implementation in 2008.

Major elements of the proposed Eight-Hour Ozone Attainment Plan include:

- **Emission Inventories** – updated, comprehensive tabulations of ozone precursor pollutants emitted into the air as a result of various activities, organized by emission source category.

- **Emission Control Strategy** – identification of a comprehensive group of stationary and mobile source control measures to bring the region into eight-hour ozone attainment as expeditiously as practicable.

- **Reasonably Available Control Measures** – an analysis to determine whether additional technologically and economically feasible control measures could advance the ozone attainment date by one or more years.

- **Attainment Demonstration** – a discussion of the results of photochemical air quality simulation modeling and other approved analytical techniques to demonstrate the ability of the Emission Control Strategy to provide for eight-hour ozone attainment in San Diego County as expeditiously as practicable.

- **Contingency Measures** – identification of control measures that will provide additional emission reductions in the event the area would fail to attain the eight-hour ozone NAAQS by the attainment deadline.

During development of the proposed Attainment Plan, a federal Appeals Court vacated an ozone implementation rule developed by EPA, upon which ozone attainment plan development throughout the nation is based. The Court remanded the matter back to EPA. In the meantime, the District is proceeding with the proposed Eight-Hour Ozone Attainment Plan to ensure compliance with the June 15, 2007, submittal deadline (which was not vacated by the Court) and continued ozone air quality improvement in the San Diego region. However, additional or revised ozone planning efforts may be required in the future upon resolution of the legal issues associated with EPA’s vacated ozone implementation rule.

Copies of the proposed Eight-Hour Ozone Attainment Plan may be obtained from the District website at http://www.sdapcd.org under Rules and Regulations, Public Workshop; or by contacting Luann Serbesku at (858) 586-2755. If you have any questions concerning the proposal, please contact Carl Selnick at (858) 586-2642 or me at (858) 586-2640.

ROBERT REIDER, Supervising Air Resource Specialist
Air Pollution Control District

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