MEETING NOTICE AND AGENDA

SAN DIEGO CONFORMITY WORKING GROUP

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

Wednesday, August 12, 2009

10:30 a.m. to 12 noon

San Diego Association of Governments (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

- 2050 REGIONAL TRANSPORTATION PLAN: WORK PROGRAM AND SCHEDULE
- 2050 REGIONAL GROWTH FORECAST
- EMISSION FACTORS (EMFAC) 2010 DEVELOPMENT

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<th>ITEM #</th>
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<tr>
<td>1. INTRODUCTIONS</td>
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<tr>
<td>2. SUMMARY OF JUNE 3, 2009, MEETING</td>
<td>APPROVE</td>
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<tr>
<td>The CWG is asked to approve the summary for the June 3, 2009, CWG meeting. Please see the attachment.</td>
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<td>3. PUBLIC COMMENTS/COMMUNICATIONS</td>
<td>DISCUSSION</td>
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<td>Members of the public will have the opportunity to address the working group during this time.</td>
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<td>4. 2050 REGIONAL TRANSPORTATION PLAN: WORK PROGRAM AND SCHEDULE</td>
<td>DISCUSSION</td>
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<td>SANDAG staff will provide the CWG with an overview of the 2050 Regional Transportation Plan (RTP) work program and schedule. The 2050 RTP will be based on the 2050 Regional Growth Forecast, will incorporate the results of the many regional and corridor studies currently underway, and will include new components as required by Senate Bill 375 (SB 375). Additionally, responsibilities and roles of various working groups and SANDAG policy advisory committees are outlined. This report was presented on June 26, 2009, to the Board of Directors for information.</td>
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<td>5. 2050 REGIONAL GROWTH FORECAST</td>
<td>DISCUSSION</td>
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<td>SANDAG staff will provide the CWG with a status report on the development of the 2050 Regional Growth Forecast and how the forecast relates to the RTP.</td>
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<td>6. EMISSION FACTORS (EMFAC) 2010 DEVELOPMENT</td>
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<td>California Air Resources Board (CARB) staff will provide the CWG with an update on the development of the next generation of EMFAC software.</td>
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<td>7.</td>
<td>DISCUSSION</td>
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<td>EIGHT-HOUR OZONE STANDARD RE-CLASSIFICATION UPDATE</td>
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<td>Staff from the United States Environmental Protection Agency (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 National Ambient Air Quality Standard: Revision on Subpart 1 Area Reclassification and Anti-Backsliding Provisions Under Former 1-Hour Ozone Standard” and the “Proposed Deletion of Obsolete 1-Hour Ozone Standard Provision” and its significance to the San Diego region.</td>
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<td>8.</td>
<td>DISCUSSION</td>
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<td>MOTOR VEHICLE EMISSION SIMULATOR 2009 (MOVES2009) DEVELOPMENT</td>
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<td>At the June 2009 CWG meeting, information on the development of MOVES2009 was requested. The U.S. EPA released a draft version of MOVES2009 in April 2009. Staff will provide the CWG with an overview of the new software program and its applicable uses.</td>
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<td>9.</td>
<td>DISCUSSION</td>
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<td>PROPOSED REVISIONS TO THE NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) FOR NITROGEN DIOXIDE (NO2)</td>
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<td>On June 26, 2009, the U.S. EPA proposed to strengthen the primary NAAQS for NO2. Staff from the U.S. EPA will provide an update on these proposed revisions and discuss their significance to the San Diego region.</td>
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<td>10.</td>
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<td>OTHER BUSINESS</td>
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<td>NEXT MEETING</td>
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<td>The next meeting of the CWG is scheduled for Wednesday, September 9, 2009, from 10:30 a.m. to 12 noon at SANDAG.</td>
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+ next to an item indicates an attachment
SUMMARY OF JUNE 3, 2009, MEETING

Item 1: Introductions

Self-introductions were made. See attached attendance list.

Item 2: Summary of March 4, 2009, Meeting

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

Item 3: Public Comments/Communications

There were none.

Item 4: EMFAC 2010 Development

Ms. Kennedy gave an update to the group on the development process for EMFAC 2010, which was provided by Dennis Wade, CARB, via e-mail. Development of the model continues. The draft model is scheduled for completion in late 2009 or early 2010. The model will include the latest travel data from metropolitan planning organizations (MPOs), rules adopted after release of EMFAC 2007, and the latest fleet information from the Department of Motor Vehicles. CARB will be providing MPOs with an opportunity to submit updated travel data in late 2009 or early 2010.

Ms. Kennedy stated that SANDAG held a discussion with CARB regarding the horizon year of the EMFAC 2010 model. SANDAG is extending the horizon year for the San Diego RTP to 2050. The horizon year for the EMFAC model is currently 2040. CARB had discussed the possibility of moving the EMFAC horizon year to 2050, but has since decided not to due to a lack of confidence in predicting vehicle fleet data out to 2050. CARB may develop some type of tool that could be used for carbon dioxide analysis or other calculations beyond 2040, but no official decision on this matter has been made. Submission of the EMFAC model to the U.S. EPA will occur by the end of 2010 to avoid any issues with the expiration of latest planning assumptions in EMFAC 2007.

Ms. Kennedy asked Stew Sonnenberg, Federal Highway Administration (FHWA), how FHWA would treat a situation where the model that is required for air quality conformity analysis does not extend out to the horizon year of the RTP.
Mr. Sonnenberg stated that a factor will probably be applied to make use of the model for conformity purposes for 2050 horizon year plans. He stated that he did not foresee an un-resolvable issue with the horizon year discrepancy.

Elisa Arias, SANDAG, stated that it would be prudent to consult with CARB to find out what tools they can provide to remedy the horizon year discrepancy. Ms. Kennedy stated that she would follow up with CARB and bring any information obtained back to the CWG.

John Kelly, U.S. EPA, asked members of the CWG if any were following the development of MOVES2009. The members responded that they were not familiar with MOVES2009 and did not know the pollutants tracked by the model, although the group agreed that EMFAC is the only approved model for use in conformity. Ms. Arias stated that the MOVES2009 model may not be applicable in California. Mr. Kelly stated that there may be a need for specific hot spot analyses in California where the model would be used.

Carl Selnick, SDAPCD, asked if Mr. Kelly knew the horizon year of MOVES2009. Mr. Kelly stated that he did not.

Ms. Arias stated that SANDAG would look into it to find answers to bring back to the CWG.

**Item 5: 2035 California Transportation Plan (CTP)**

Ms. Kennedy stated that the California Department of Transportation (Caltrans) staff, Christine Antoine, would provide an update on the development of the CTP.

Ms. Antoine stated that the CTP is a federally and state required transportation planning document. The CTP is updated every five years by Caltrans headquarters, and has a minimum 20-year planning horizon. The current CTP has a horizon year of 2035. The plan consists of strategies and policies relating to transportation planning and does not include any funding allocations.

Ms. Antoine stated that the main focus of the 2035 CTP is new legislation, including SB 375 and Assembly Bill 32, as well as finding consistency with other plans, including the CARB scoping plan. Ms. Antoine handed out a list of policies contained in the CTP which may be relevant to the CWG. The list includes proposed policies, as well as policies and strategies provided by stakeholders. Caltrans is currently seeking comments on the plan, which can be submitted via the CTP website or directly to her. There will be a public workshop in San Diego during September or October, and an invitation will be sent out to the CWG. The comment period for the CTP closes at the end of June, and the initial draft is anticipated to be released in July. After fall 2009, there will be additional opportunities to make comments on the draft plan. The final CTP will be completed in 2010.

**Item 6: Eight-Hour Ozone Standard Reclassification Update**

Ms. Kennedy stated that the U.S. EPA published the “Proposed Rule to Implement the 1997 8-Hour Ozone National Ambient Air Quality Standard: Revision on Subpart 1 Area Reclassification and Anti-Backsliding Provisions Under Former 1-Hour Ozone Standard” and the “Proposed Deletion of Obsolete 1-Hour Ozone Standard Provision” in the Federal Register on January 16, 2009. The public comment period closed on April 1, 2009. Mr. Kelly was asked to provide an update on this rulemaking and its significance to the San Diego region.
Mr. Kelly stated that all Subpart 1 areas in the country that are still currently non-attaining and still have not been redesignated to attainment for the 1997 ozone standard will have to be redesignated as Subpart 2 areas (one-half of the Subpart 1 areas have come into attainment and have been redesignated for attainment; therefore, this rule does not affect them). A court case was lost by the U.S. EPA and the court decided that the U.S. EPA cannot implement the remaining areas under Subpart 1, which is a more generic section in the Clean Air Act. The court requires that the U.S. EPA implement these remaining areas under Subpart 2, which has more prescriptive classifications of ozone (i.e., marginal or moderate, serious, and extreme). San Diego was initially to be implemented under Subpart 1, but the U.S. EPA is now required to give San Diego a proposed initial classification of moderate under Subpart 2 for the 1997 ozone standard. The U.S. EPA is required to use the same data that was used to classify the remaining Subpart 1 areas originally (2001-2003 data).

Mr. Kelly stated that on January 16, 2009, the Federal Register contained the proposal for the rulemaking, and currently, the draft final is being circulated. San Diego remains a moderate area in the draft final. During the next two months, the rule is anticipated to be finalized and issued. The finalized rule will have an effective date, which will then trigger a state implementation plan (SIP) submittal requirement. This will be an unusual situation because the SIP submittal date will be beyond the required attainment date for the moderate area (the maximum allowed attainment date would be June 15, 2010). The San Diego area will not be required to submit a SIP until 12 months after the finalization of the rulemaking.

Mr. Selnick stated that this meeting is the first time that he knew of the timing of the release of the final rule.

Mr. Kelly stated that there has been a hold on the confirmation of the top official for the air quality department and that has caused the delay with circulation of this rule.

Mr. Kelly asked if there have been any problems with Particulate Matter (PM) 2.5 or PM10 in the San Diego region. He stated that San Diego continued to show up on a watch list for PM.

Mr. Selnick stated that he was unaware of problems with any of the PM standards. He asked that Mr. Kelly provide more details in the future about the source of his information regarding San Diego PM data.

Item 7: Other Business

Ms. Kennedy stated that the CWG meetings normally held on the first Wednesday of the month will conflict with the updated Regional Targets Advisory Committee meeting schedule. She suggested changing the meeting date to the second Wednesday of the month to avoid this conflict. The group agreed to check their schedules and e-mail Ms. Kennedy if there are conflicts with the second Wednesday of the month.

Ms. Kennedy stated that the Statewide Conformity Working Group would meet on June 17, 2009, and SANDAG would serve as a host location where participants can listen to the conference call.

Ms. Kennedy said that the next meeting would likely be held on Wednesday, July 8, but this would be confirmed via e-mail with the group.

Key Staff Contact: Rachel Kennedy, (619) 699-1929; rke@sandag.org
San Diego Region Conformity Working Group  
Meeting Attendance  
June 3, 2009

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<tr>
<th>Name</th>
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<td>Mike Brady (phone)</td>
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<td>Ron Nitivitas (phone)</td>
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<td>Wade Hobbs</td>
<td>FHWA</td>
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<td>Stew Sonnenberg</td>
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<td>Elisa Arias</td>
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<td>Andrea Hoff</td>
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<td>Rachel Kennedy</td>
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<td>Carl Selnick</td>
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<td>Carla Walecka (phone)</td>
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<td>John Kelly (phone)</td>
<td>U.S. EPA</td>
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<td>Mike Brewster</td>
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2050 REGIONAL TRANSPORTATION PLAN: WORK PROGRAM AND SCHEDULE

Introduction

The current 2030 Regional Transportation Plan (RTP) was adopted in 2007. Federal law requires that SANDAG prepare a long-range transportation plan and make an air quality conformity determination every four years. SANDAG staff has prepared a draft work program and schedule to develop the 2050 RTP, which is slated for adoption in 2011. SANDAG is the first major metropolitan planning organization that will prepare an RTP according to provisions of Senate Bill (SB) 375 (Steinberg, 2008). Additionally, proposed roles and responsibilities of various working groups and Policy Advisory Committees are outlined. The purpose of this informational report is to provide an overview of the proposed work plan and its key elements to the Board of Directors. This informational report also was presented at the June 5, 2009, joint meeting of the Regional Planning and Transportation Committees.

Discussion

2050 RTP Work Program: Key Inputs and Components

At the April 24, 2009, Board of Directors meeting, staff provided an overview of the proposed FY 2010 Integrated Work Plan to comply with SB 375. SANDAG staff now has developed a more detailed work program and schedule for the 2050 RTP that incorporates a variety of planning efforts. In accordance with state and federal guidelines, the 2050 RTP is scheduled for adoption by the Board of Directors in July 2011. The 2050 RTP Work Program and Schedule are included as Attachments 1 and 2, respectively. A number of key inputs and components that will shape the development of a 2050 RTP are highlighted below.

2050 Regional Growth Forecast

Work already is underway to produce the 2050 Regional Growth Forecast, which will be used in the preparation of the 2050 RTP. The forecast is being developed in two phases. The first phase takes into account existing land uses, planned land uses, and potential redevelopment and infill areas. The second phase involves preparing alternative land use scenarios that can be applied beyond the horizon year of local general plans. The Board of Directors will be asked to approve the 2050 Regional Growth Forecast for planning purposes in early 2010. Additional information about the forecast, including possible transportation and transportation demand management (TDM) measures and upcoming public outreach activities, will be presented for Board discussion at the July 10, 2009, Board Policy meeting.
Updated Goals and Objectives

The Board of Directors adopted seven policy goals to guide the development of the 2030 RTP. Policy objectives also were established to help the region achieve those goals. As part of the 2050 RTP development, the Board of Directors will be asked to review and update the goals and objectives from the 2030 RTP based on emerging issues such as the implementation of SB 375.

Urban Core Transit Strategy

In summer 2009, SANDAG will begin the development of an Urban Core Transit Strategy to evaluate possible regional transit strategies that maximize peak-period transit mode share in the urban core. The strategy will result in three or four long-range strategic transit network alternatives that will be factored into the 2050 RTP. Additionally, the study will include short-term action plans and implementation strategies. The Board of Directors will be asked to approve these alternatives for use in the 2050 RTP development in spring 2010.

Sustainable Communities Strategy

The Sustainable Communities Strategy (SCS) will be a new element of the RTP, as required by SB 375, and will be designed to show how regional greenhouse gas (GHG) reduction targets, to be established by the California Air Resources Board, would be achieved through development patterns, infrastructure investments, and/or transportation measures or policies that are determined to be feasible. Additionally, the SCS must be consistent with the Regional Housing Needs Assessment (RHNA) and must address protection of sensitive resource areas. If the SCS does not meet regional GHG reduction targets, an Alternative Planning Strategy (APS) must be developed to demonstrate how the targets can be achieved.

The adopted Smart Growth Concept Map, which identifies existing and planned smart growth areas linked to existing and planned public transit, along with the identified habitat conservation areas, will serve as a basis for the SCS. Additionally, the results of the Regional Climate Action Plan (RCAP) will provide options for additional measures that could reduce GHG emissions.

Other Key 2050 RTP Tasks

The results of related work efforts, such as the Regional Energy Strategy Update, RCAP, Regional Bicycle Plan, Comprehensive Freight Gateway Forecast, new border crossing at Otay Mesa East, airport multimodal planning, high-speed rail planning, corridor and subregional studies, collaborative projects with Tribal Nations, as well as interregional and binational strategies, will be incorporated.

Other major tasks include updates to the project evaluation criteria and plan performance measures, economic analysis of investment strategies, enhanced environmental justice analysis, new revenue projections, revised cost estimates for projects and services, and integration of technology and TDM measures into investment strategies. Additionally, the 2050 RTP will be subject to any new requirements established in the upcoming federal surface transportation reauthorization, which is anticipated to be passed in 2010, and will incorporate updated California Transportation Commission RTP Guidelines.
RTP/SCS Public Participation Plan

SANDAG regularly involves the public in regional planning efforts. A public participation plan is being prepared to help develop the 2050 RTP. On May 22, 2009, the Board of Directors approved the creation of a new Regional Planning Stakeholders Working Group to provide input on the development of key work elements in the planning process, including the public participation plan. Additionally, there will be a series of public presentations and workshops and other means for involving the public and receiving input on the work products and draft 2050 RTP. The Board of Directors will be asked to approve the Public Participation Plan in winter 2009.

2050 RTP Environmental Impact Report

The Environmental Impact Report (EIR) for the 2050 RTP will require analysis beyond what has been included in previous RTP EIRs. The RTP environmental analysis will include GHG emissions baseline measurements and projections, as well as potential mitigation measures that could reduce emissions. The EIR also will include analysis of the additional elements required by SB 375, such as the SCS.

In addition, as part of the environmental review process for the RTP, SB 375 includes California Environmental Quality Act (CEQA) streamlining provisions as an incentive to encourage certain types of projects that help achieve the GHG reduction target and are consistent with the SCS (e.g., residential or mixed-use projects that conform to SCS and transit priority projects that meet specified criteria). Cities and counties that find the CEQA streamlining provisions useful will have the opportunity to align their planning policies with those of the regional SCS. It should be noted, however, that the CEQA streamlining provisions are not mandatory and are intended to be a tool that local jurisdictions may use, if desired.

2050 RTP Proposed Roles and Responsibilities

A number of Policy Advisory Committees will provide oversight and policy direction for the development of the 2050 RTP. Several working groups also will provide input throughout the preparation of the plan. The new Regional Planning Stakeholders Working Group will play an integral role in the development of the 2050 RTP, along with the region’s public works directors and planning directors, who are represented in the Cities/County Transportation Advisory Committee (CTAC) and Regional Planning Technical Working Group (TWG), respectively. The San Diego Region Conformity Working Group (CWG) will be consulted on the development of the air quality conformity analysis. Additionally, staff will make sure that key elements of the 2050 RTP development are brought to the Tribal Transportation Working Group to allow for substantive feedback and input. Finally, the TransNet Independent Taxpayer Oversight Committee’s responsibilities include participating in the ongoing refinement of the SANDAG transportation system performance measurement process and the project evaluation criteria used in the development of the RTP. Attachment 3 outlines the proposed roles and responsibilities of the Policy Advisory Committees and their working groups related to the development of the 2050 RTP.
**Next Steps**

In order to implement the proposed work plan, SANDAG will benefit from substantial work that is already underway. The adopted Smart Growth Concept Map together with regional habitat conservation areas will serve as a basis for the SCS. A number of planning efforts that will be incorporated in the 2050 RTP development have been initiated, such as the Interstate 5 South Multimodal Corridor Study, and Freight Gateway Forecast. Additionally, a discussion on new goals and policy objectives for the 2050 RTP will be brought to a future Board of Directors Policy meeting.

GARY L. GALLEGOS  
Executive Director

Attachments: 1. 2050 RTP Work Program  
2. 2050 RTP Schedule  

Key Staff Contact: Heather Werdick, (619) 699-6967; hwe@sandag.org

Funds are budgeted in Work Element #3000400
2050 RTP WORK PROGRAM

1. Develop Regional Transportation Plan (RTP) Work Program
   - Review work program with core working groups, Policy Advisory Committees, and Board of Directors

2. Review and Update RTP Goals and Policy Objectives
   - Confirm consistency with updated Regional Comprehensive Plan (RCP) directives and Strategic Initiatives
   - Monitor and incorporate new transportation act/bill and other legislation, including Senate Bill (SB) 375 (as needed)
   - Monitor and incorporate updated California Transportation Commission RTP Guidelines (as needed)

3. Public Outreach and Involvement
   - Set up 2050 RTP Project Web page and maintain throughout RTP development and adoption
   - Create new Regional Planning Stakeholders Working Group and issue mini-grants for outreach to community based organizations
   - Develop Public Participation Plan (PPP) that meets federal transportation bill requirements and SB 375
   - Schedule events and develop outreach products
   - Conduct subregional workshops (3) on Draft 2050 RTP
   - Conduct public hearings (2) on Draft 2050 RTP
   - Analyze ongoing feedback and respond to comments received via the Web page, phone, e-mail, etc.

4. Prepare 2050 Regional Growth Forecast
   - Collect Existing Plans and Policies land use inputs (Phase 1)
   - Create demographic, housing, and economic estimates for Existing Plans and Policies
   - Generate New Growth Forecast (Population and Employment) for Existing Plans and Policies
   - Create and test alternative land use scenarios for capacity to 2050 (Phase 2) and review results with working group and Policy Committees
   - Conduct public workshops on select alternative land use scenarios
   - Generate preliminary draft Growth Forecast for review
   - Finalize 2050 Regional Growth Forecast
5. Incorporate Recommendations from Regional/Corridor/Subregional Studies into Development of Transportation Networks
   • Studies include the Interstate 5 (I-5) South Multimodal Corridor Study, Downtown Transportation Plan, Urban Core Transit Strategy, Regional Bicycle Plan, Impediments to Public Transit, Safe Routes to School Strategy, Regional Climate Action Plan (RCAP), Regional Energy Strategy, State Route (SR) 11 and Otay Mesa East Port of Entry Financing Strategy, I-15 Interregional Partnership and Imperial Valley Association of Governments (IVAG) I-8 Corridor Strategic Plan, Tribal Transportation Plans, Corridor System Management Plans, TransNet Early Action project development, Otay Mesa-Mesa de Otay Binational Corridor Strategic Plan, California-Baja California Border Master Plan, and the Federal Transit Administration (FTA)/Federal Highway Administration (FHWA) Guidebook on Congestion Management Process (as needed)

6. Develop Sustainable Communities Strategy (SCS) and Alternative Planning Strategy (APS) (if needed)
   • Conduct workshop for SB 375 Implementation/Greenhouse Gases (GHG) Regional Targets/SCS development
   • Information meeting(s) with elected officials to obtain input on SCS
   • Develop draft SCS based on the adopted Smart Growth Concept Map and results from the Urban Core Transit Strategy and the RCAP
   • Generate alternative(s) land use/transportation scenario for an APS (if needed)
   • Develop draft APS if the SCS does not meet the regional GHG targets (if needed)

7. Update Revenue and Cost Projections for Projects and Services
   • Develop or revise cost estimates for all Unconstrained highway and transit projects based on requirements from federal transportation bill
   • Incorporate revised cost estimates for local streets and roads projects provided by the local jurisdictions
   • Incorporate SR 11–Otay Mesa East Port of Entry Financing Strategy
   • Develop initial revenue projections for the various local, state, and federal revenue sources for the Revenue Constrained and Reasonably Expected scenarios
   • Refine and finalize initial revenue projections and cost estimates for the Revenue Constrained and Reasonably Expected scenarios

8. Update Regional Arterial System (as needed)

9. Airport Multimodal and Rail Planning
   • Incorporate recommendations from the Airport Multimodal Action Plan (AMAP)
   • Incorporate Air–Rail Network Plan
   • Incorporate Regional Aviation Strategic Plan (RASP), including Destination Lindbergh
10. Develop Technology and Innovation Updates for the RTP
   • Incorporate transportation system management and monitoring systems into the RTP
   • Research future transportation infrastructure and architecture needs and incorporate into the RTP
   • Incorporate assumptions from Regional Energy Strategy Update relating to alternative fuels and vehicles into the RTP

11. Update the Goods Movement Action Plan (as needed)
   • Incorporate findings from the Comprehensive Freight Gateway Study

12. Update Transportation Project Evaluation Criteria
   • Review/revise criteria with a focus on updated goals and policy objectives

13. Update Performance Measures for RTP
   • Re-evaluate and update performance measures to be consistent with 2050 RTP goals and policy objectives
   • Develop measurable objectives consistent with updated RTP performance measures
   • Update base year and projected Levels of Service (LOS), Vehicle Miles Traveled (VMT), GHG emissions, travel time, speed, and other indicator data for the RTP

14. Develop Network and/or Land Use Alternatives
   • Develop multimodal (transit, high-occupancy vehicle [HOV], Managed Lanes, highway, bicycle, and pedestrian) network alternatives in conjunction with SCS/APS
   • Select networks and land use alternatives to be included in the different financial scenarios of the RTP and in the EIR

15. Analyze Alternatives and Select Preferred Unconstrained Network for RTP
   • Perform travel forecasts and evaluate overall performance
   • Apply updated performance measures, such as overall LOS, VMT, GHG emissions, economic indicators, and average corridor travel times, to provide a grid of overall effectiveness of each alternative
   • Develop Draft Preferred Network for review

16. Conduct Economic Analysis of Transportation Investment Scenarios

17. Develop Environmental Justice Assessment

18. Create Final RTP/SCS and EIR Scenarios
   • Create new Revenue Constrained and Reasonably Expected funding scenarios
   • Apply revised evaluation criteria to assist in project selection for RTP scenarios
• Develop transportation networks for Revenue Constrained and Reasonably Expected Scenarios for review
• Create EIR alternatives

19. Perform Air Quality (AQ) Forecasts
• Discuss conformity criteria and procedures with San Diego Region Conformity Working Group (CWG)
• Address new Environmental Protection Agency (EPA)/FTA/FHWA requirements for AQ analysis (as needed)
• Prepare draft air quality conformity determination for Draft RTP for review
• Assist with AQ analysis for Draft and Final EIR
• Prepare final air quality determination

20. Produce Draft RTP

21. EIR Preparation
• Prepare and circulate Notice of Preparation for EIR
• Prepare Draft EIR, including enhanced analysis per SB 375
• Prepare Final EIR

22. Release Draft RTP/EIR for Public Comment

23. Prepare Draft Final RTP

24. Prepare Final EIR

25. Final RTP/EIR Adoption

26. Air Quality Conformity Determination by United States Department of Transportation
## 2050 Regional Transportation Plan Schedule

### MAJOR TASKS

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### Timeline

- **2009**: January, February
- **2010**: January, February, March, April, May, June, July, August, September, October, November, December
- **2011**: January, February, March, April, May, June, July, August, September, October, November, December

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**June 2009**
### Roles and Responsibilities for the 2050 Regional Transportation Plan

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### Board of Directors (BOD)
- Cities/County Transportation Advisory Committee (CTAC)
- Regional Planning Stakeholders Working Group (SWG)
- Regional Planning Technical Working Group (TWG)
- Regional Working Group (EWG)
- San Diego Region Conformity Working Group (CWG)
- Tribal Transportation Technical Working Group (Tribal TWG)
- TransNet Independent Taxpayer Oversight Committee (ITOC)
2050 REGIONAL GROWTH FORECAST

Introduction

The 2050 Regional Growth Forecast is the first step in developing the 2050 Regional Transportation Plan (RTP). As part of the RTP, the 2050 forecast will serve as the basis for the region’s first Sustainable Communities Strategy. The forecast also will be used in developing the Regional Housing Needs Assessment (RHNA) and updating the next Regional Comprehensive Plan (RCP).

The 2050 Forecast also supports local land use, capital improvement, and water resource planning throughout the region.

The forecast is completed through a multi-step, collaborative process that involves input from local jurisdictions (in particular, the planning and community development directors that serve on the Regional Planning Technical Working Group (TWG)), citizens, and elected officials. In addition to local outreach, SANDAG staff conducts peer review by outside experts including demographers, economists, developers, and natural resource managers to review economic and demographic assumptions about fertility, migration, inflation, and other indicators. The purpose of this report is to provide the Board of Directors with an overview of the process, progress to date, and potential alternative land use scenarios for consideration in the forecast.\(^1\)

Recommendation Revised Based on Input from Board of Directors

Based on the discussion and feedback from the Board of Directors in June, SANDAG staff has revised the recommendation to the Board for moving the 2050 Forecast forward. The revised recommendation includes the following:

- Present background information on the 2050 growth projections to each jurisdiction (e.g. via City Councils and the County Board of Supervisors)
- Present information on the requirement to provide sufficient capacity to house all projected growth within the region

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\(^1\) SANDAG denotes forecasts by a sequential series number. The current working forecast is known as the Series 12: 2050 Regional Growth Forecast.
Present the local jurisdiction’s anticipated future capacity for growth and information on how that capacity was calculated

Describe the land use scenarios developed with the TWG

Request that each council/board evaluate the scenarios and select one of the proposed scenarios or another of their choosing

Request that the council/board work through their planning director to provide feedback to SANDAG on the 2050 land use scenario

This information would then be compiled across all jurisdictions to finalize the land use portion of the 2050 Regional Growth Forecast. Additional public outreach will be integrated into the overall RTP update process.

**Discussion**

**2050 Growth: Change and Challenges**

Previous forecasts have consistently shown that the San Diego region will continue to grow although at reduced rates in the future. This forecast is no different, and preliminary draft projections suggest that the region will approach 4.4 million residents, 1.9 million jobs, and 1.5 million housing units by 2050. This is a projected growth rate in population, jobs, and housing of 39 percent, 33 percent, and 35 percent, respectively. Much of the projected residential growth between today and 2035 can be accommodated based on adopted general plans and policies; however, draft projections show the region’s housing demand exceeds housing capacity before 2050.

Based on land use and general plan input from the TWG, draft analysis indicates that the region has capacity for approximately 380,000 of the 450,000 projected additional housing units and ample capacity (775,000) for the projected 500,000 additional jobs created. This analysis is based on information from existing general plans, including the County of San Diego draft plan update, areas considered most likely for redevelopment based on current conditions, and information on limitations, such as steep slopes, habitat, and open space areas.

Initial economic projections show strong growth in real per capita income and stable, diversified employment growth over the next four decades. While there is sufficient capacity for job growth, continued economic development in the region is contingent upon providing opportunities to house San Diego’s future labor force, as indicated in the SANDAG’s Regional Economic Prosperity Strategy.
Important Considerations for the 2050 Forecast

As a result of Senate Bill 375 (Steinberg, 2008), the SANDAG forecast shall “identify areas within the region sufficient to house all the population of the region…over the course of the planning period of the regional transportation plan.” Currently adopted general plans and certain draft updates allow capacity to provide housing opportunities for about 85 percent of the housing demand projected for the region. Based on the state requirement, SANDAG has been working with each jurisdiction through the TWG since October 2008 to identify housing opportunities for the remaining 15 percent of growth expected in the last 10 to 15 years of the forecast.

Further, in order to avoid additional state review during the RHNA process, the population forecast also must be “within a range of 3 percent of the total regional population forecast…over the same time period by the [California] Department of Finance.” At this point, the Department of Finance projects approximately 4.5 million residents in the San Diego region by 2050, or approximately 2.2 percent more residents than the draft projection prepared by SANDAG.

Recommendations from the Technical Working Group and Regional Planning Committee

To ensure local input, SANDAG staff has been working with local planning directors, through the TWG, to identify a series of land use scenarios that could bridge the gap between the horizon year of local general plans and the 2050 forecast year. Twelve scenarios and their variants were generated through a series of workshops and meetings with the TWG. The TWG reviewed each scenario in detail with a focus on selecting alternatives that were reasonably based on knowledge of local plans and market conditions, as well as alternatives that align with regional goals described in approved plans such as the RCP and RTP. Based on those objectives at its May meeting, the TWG recommended that SANDAG staff continue to examine the following land use scenarios:

- **Maximum general plan development/redevelopment regionwide**
  Assumes (re)development throughout the region to the highest possible density based on existing general plans.

- **Density increases in transit investment areas**
  Assumes (re)development of sites within transit investment areas to a minimum of 25 dwelling units (du)/acre on lands currently planned for multi-family, mixed-use, or commercial use.

- **Redevelopment near high-frequency transit stations**
  Assumes that all commercial areas located within a 10-minute walk of high-frequency transit stations are redeveloped as mixed-use (residential and commercial) with multi-family housing at a minimum of 25 du/acre.

- **Full implementation of Smart Growth Opportunity Areas (SGOAs) on the Smart Growth Concept Map**
  Assumes that Existing/Planned and Potential SGOAs identified on the Smart Growth Concept Map are developed to the greater of either maximum general plan density or minimum smart growth place type density. This plan also includes redeveloping some park-and-ride facilities into mixed use with parking structures.

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3 California Senate Bill 375, Sec 8 (b). Approved by California Governor September 30, 2008.
The TWG came up with two approaches to apply the proposed scenarios. One is to select a preferred 2050 land use scenario to apply across the entire region, and the other is to pursue a “toolbox” approach whereby each jurisdiction would be able to select a 2050 land use scenario that is the best fit.

Given feedback from local jurisdictions and from the SANDAG Board of Directors, there appears to be support for the “toolbox” approach to the 2050 land use scenarios. To address this preference, SANDAG staff proposes to work directly with local jurisdictions, through city councils and the County Board of Supervisors, and their planning departments, in developing a 2050 forecast based on each jurisdiction’s selected scenario.

2050 Regional Growth Forecast for the RTP

The 2050 Regional Growth Forecast is the first step in developing the 2050 RTP. The subregional projections of economic and demographic growth are a key input for transportation alternatives analysis. As part of the RTP process, the Board will be asked to consider transportation network alternatives and Transportation Demand Management (TDM) measures. A wide array of TDM measures are under analysis now as part of the Regional Climate Action Plan (RCAP). These TDM measures include, but are not limited to pricing, telecommuting, commuter financial incentives, and non-motorized transportation improvements. At this point, it is too soon to provide information on the interaction between any specific land use and TDM policy since a 2050 transportation network has not yet been defined in the RTP process. Additional information on TDM policies and performance metrics would be presented to the Board throughout the RTP process.

Next Steps

To have the best chance of meeting the schedule set for completing the RTP, the regional growth forecast process must move ahead. To help facilitate the forecast process, staff is requesting assistance from the Board and their respective city councils and the Board of Supervisors. SANDAG staff is proposing to appear before each city council and the County Board of Supervisors to present information on the 2050 Regional Growth Forecast, including demographic and economic growth projections, housing capacity calculations and shortfall estimates, and the 2050 land use scenarios. The presentations and ensuing discussions are expected to provide sufficient information for SANDAG staff to move forward with the forecast process. Each jurisdiction would have the option to consider one of the proposed scenarios (listed above) or to provide a substitute scenario. To keep
the RTP process on schedule, staff proposes to schedule these meetings between July and September 2009.

Upon collecting information from each jurisdiction, SANDAG staff proposes to produce a draft subregional forecast in late 2009 that would be shared with each jurisdiction for comment and review. The final forecast is expected to be presented to the Board of Directors in early 2010 for use in the 2050 RTP.

GARY L. GALLEGOS
Executive Director

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Funds are budgeted in Work Element #31009
2050 “Series 12” Forecast

July 10, 2009

Revised Approach

- SANDAG staff would attend council/board meetings, at the request of the jurisdiction’s SANDAG Board member, to present the following information:
  - 2050 growth projections regionwide
  - Regional capacity shortfall
  - Jurisdiction’s anticipated future capacity based on information collected to date from jurisdiction’s planning department
  - Land use scenarios developed with the TWG
  - Solicit jurisdiction’s feedback on preferred land use scenario for later years of forecast
Topics for Today’s Meeting

Goals and purpose of the forecast
DRAFT growth projections: 2050
Capacity shortfall
Revised recommendation
Next Steps

Goals of the SANDAG Forecast

1. Produce a regionwide growth forecast that is accurate and reasonable.

2. Produce a subregional forecast based on local plans, policies, and an understanding of likely development patterns in the future that could reasonably accommodate projected growth within the region.
Purpose of SANDAG’s Forecast

2050 RTP Development Process

- Initial 2050 RTP / SCS / RHNA Alternatives
- Evaluation of Alternatives
- Draft 2050 RTP Scenarios
- Final GHG Reduction Target
- Draft 2050 RTP and EIR
**DRAFT Results: Population, Housing, Jobs**

- **DOF 2050 Forecast:**
  - Population = 4.5 mil.

**DRAFT Results: Age Structure**

- **Populations:**
  - 2008 = 3.1 mil.
  - 2050 = 4.4 mil.
Steps in the Forecasting Process:

Phase 1: Existing Plans and Policies

- Starts with existing general plans
- Includes constraints to development:
  - Natural constraints: habitat, steep slopes, floodplains
  - Built environment: existing buildings and infrastructure
  - Policies: parking requirements, setbacks, etc...
  - Other local considerations: redevelopment zones

Phase 2: Alternative land-use scenario for 2050
### Anticipated Deficit by 2050

2050 scenario target: 450,000 additional units

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<td>Phase 2: 2050 Scenarios</td>
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*NOTES: Draft is current as of June 26, 2009.

“Minimum net deficiency” is calculated based on a need for 450,000 housing capacity 2008-2050. If projected need is greater, deficit is also greater.

### Existing City/County Planned Housing Capacity: 2008

[Map of Existing City/County Planned Housing Capacity: 2008]

- **Housing Capacity Remaining**
  - 0 - 14,899 EA
  - 15,000 - 29,599 EA
  - 30,000 - 54,599 EA
  - 65,000 + EA
General Plan Updates (recently completed and in-progress)

Scenarios for Each Jurisdiction to Consider for 2050:

1. Assume that 100% buildout of existing plans could occur
2. Assume that plan updates in progress today are adopted
3. Assume that planned multi-family lands within transit investment areas could redevelop up to a minimum 25 du/acre (or plan maximum, whichever is greater)
4. Assume that planned multi-family and commercial lands within a 10-minute walk of transit stations could redevelop to mixed use at a minimum of 25 du/acre (or plan maximum, whichever is greater)
5. Assume that local plans are updated to align with the current Smart Growth Concept Map
6. Assume density bonus potential in selected areas (with jurisdiction’s guidance)
7. Assume jurisdiction-specific alternative(s)
Revised Approach

• SANDAG staff would attend council/board meetings, at the request of the jurisdiction’s SANDAG Board member, to present the following information:
  • 2050 growth projections regionwide
  • Regional capacity shortfall
  • Jurisdiction’s anticipated future capacity based on information collected to date from jurisdiction’s planning department
  • Land use alternatives developed with the TWG
  • Solicit jurisdiction’s feedback on preferred land use scenario for later years of forecast

Proposed Next Steps

• July – Sept. 2009: Meet with councils/board (as requested)
• Sept. – Dec. 2009: Develop draft 2050 growth forecast
• Jan. – Feb. 2010: Complete final forecast
Recommendation

The Board of Directors is asked to accept the revised 2050 Regional Growth Forecast outreach plan. The outreach plan proposes meeting with each jurisdiction individually through council/board meetings (or by other means if preferred by the jurisdiction) on land use assumptions whereby each jurisdiction will have the option to select a preferred 2050 land use pattern.
Transit investment area (Transit Priority Area, plus I-15 Corridor)
Q1. Why is EPA releasing Draft MOVES2009?

A1. Under the Clean Air Act (CAA), EPA is required to regularly update its mobile source emissions model. EPA is continuously collecting data and conducting emission studies to make sure the Agency has the best possible basis for its assessment. This assessment, in turn, informs the development of EPA's mobile source emissions models. MOBILE6.2 is currently the only model approved to do State Implementation Plan (SIP) and conformity analyses outside of California¹. Draft MOVES2009 is the draft version of EPA's new mobile source emissions model which, when finalized, will represent the Agency's most up-to-date assessment of mobile source emissions. It will also incorporate changes based upon recommendations made to the Agency by the National Academies of Science.

Q2. When will MOVES2009 be available for SIP and conformity analyses?

A2. When the final MOVES2009 is released later this year, it will replace MOBILE6.2 as the model states and local areas will use to develop emission inventories for SIPs and conformity determinations. It will also be used to estimate the emission reduction benefits from a range of mobile source control strategies. In conjunction with the official release of MOVES2009, EPA will release several guidance documents, including guidance on when the official MOVES2009 model will be required for SIP use and establishing what the grace period will be before the final model will be required for new conformity analyses.

¹ For California, the approved model for these analyses is currently the EMFAC2007 model.
Q3. Why has EPA changed the name of its mobile source model from “MOBILE” to “MOVES”?

A3. The name “MOVES” is an acronym for “Motor Vehicle Emission Simulator.” The name change signals the new approach to projecting mobile source emissions being taken in the new model. Specifically, the MOVES model is designed to improve upon the MOBILE6.2 model in two key respects. First, the MOVES model is based on a review of the vast amount of in-use vehicle data collected and analyzed since the release of MOBILE6.2, including millions of emissions measurements from light-duty vehicles. Analysis of this in-use data has enhanced EPA's understanding of how mobile sources contribute to emission inventories and it has also improved the Agency's understanding of the relative effectiveness of various in-use control strategies. Second, the MOVES model is designed to allow users much greater flexibility with input and output options. This added flexibility allows EPA to easily update emissions data incorporated in MOVES and will allow users to incorporate a much wider array of activity data to improve estimation of local emissions.

Q4. What is the schedule for the release of a final MOVES2009?

A4. EPA plans to release a final, official version of MOVES2009 at the end of 2009. The final version of MOVES2009 will replace MOBILE6.2 as the official approved emissions model for SIPs and conformity analyses.

Between the release of draft and final versions of MOVES2009, EPA and the Federal Highway Administration (FHWA) will be providing MOVES2009 training to state and local users (training sessions will be posted and updated at http://www.epa.gov/otaq/models/moves/index.htm as they are scheduled).

During this time, EPA will also be accepting comments from users, and making any necessary changes to the final model. EPA requests comments by July 2009 in order to give the Agency sufficient time to review comments and make necessary changes in time for the end-of-year release deadline. All comments should be submitted via e-mail to: mobile@epa.gov.

In addition to training and on-going model development work, EPA will also produce guidance documents during the draft review period. A technical guidance document will address issues related to development of local input information for MOVES2009. A second guidance document will describe how to use MOVES2009 and air quality models to do project-level hotspot analyses. A third guidance document will address when final MOVES2009 will be required for SIP use and will specify a grace period before the final version of MOVES2009 is required for new conformity analyses. EPA plans to release all of these documents in draft form for comment later in 2009. Final guidance documents will be released along with the final version of MOVES2009. EPA will announce the release of the final model and the beginning of the conformity grace period in the Federal Register.
Q5. How does Draft MOVES2009 compare to EPA's previous mobile source emission factor models?

A5. Unlike the EPA's previous mobile source emission models, Draft MOVES2009 has been designed around a graphical user interface (GUI) using the open source database management software known as MySQL. Using this database approach to modeling allows EPA to easily incorporate large amounts of in-use data from a wide variety of sources, such as data from vehicle inspection and maintenance (I/M) programs, remote sensing device (RSD) testing, certification testing, portable emission measurement systems, etc. This approach also provides users much greater flexibility with regard to output choices. Unlike earlier models which provided emission factors in grams-per-mile in fixed output formats, Draft MOVES2009 output can be expressed as total mass (in tons, pounds, kilograms, or grams) or as emission factors (grams-per-mile and in some cases grams-per-hour). Output can be easily aggregated or disaggregated to look at emissions in a range of scales, from national emissions impacts down to the emissions impacts of individual transportation projects.

Q6. How does the current Draft MOVES2009 compare to previously released drafts of MOVES?

A6. The first draft release of MOVES – MOVES2004 – was a proof-of-concept model that only looked at two aspects of mobile source activity: well-to-wheel energy consumption and greenhouse gas (GHG) impacts. MOVES2004 was then followed by the MOVES Demo model, which was released in May 2007. MOVES Demo allowed potential users to gain familiarity with what would be the basic structure for subsequent iterations of the model but did not include the ability to model emissions of criteria pollutants. The reason for the release of MOVES Demo was to get comments from likely users on the user interface and other model functions. With Draft MOVES2009, EPA is releasing a more refined version of the model for likely users to “test drive” and comment upon so that EPA can resolve any issues and implement any improvements suggested in time for the official release at the end of 2009.

Unlike MOVES Demo, Draft MOVES2009 does include the ability to model criteria pollutant emissions and also includes additional features to simplify regional and project-level analyses for SIP and conformity determinations. It should be noted, however, that Draft MOVES2009 is not approved for use in either official SIP submissions to EPA or for making conformity determinations due to reasons discussed in further detail below. In addition, Draft MOVES2009 is not approved for quantitative particulate matter (PM) 2.5 or PM10 hot-spot analyses for project-level conformity determinations, nor is it to be used for required emissions analyses needed to meet the National Environmental Policy Act (NEPA).

Q7. What can Draft MOVES2009 be used for?

A7. Draft MOVES2009 is a work-in-progress that is being released now to solicit user comments that can be used to improve the official, final version of MOVES2009 scheduled
for release at the end of 2009. In addition to aiding EPA as it works toward finalizing the model, potential users can also use this draft version to gain valuable experience with the new input requirements for MOVES2009, many of which may be unfamiliar to users of MOBILE6.2.

Given its unofficial status, Draft MOVES2009 cannot be used to meet Federal clean air planning requirements, such as SIP submissions and/or conformity analyses, nor is it to be used for emissions analyses needed to meet any other regulatory requirements. Draft MOVES2009 cannot be used for these purposes because it does not include all the data or features currently planned for the official version and because the data and features may change subject to comments. Furthermore, EPA expects that this draft will undergo several anticipated changes, a list of which will be made available at the MOVES website at http://www.epa.gov/otaq/models/moves/index.htm. MOBILE6.2 remains the approved motor vehicle emission model for use in SIPs and conformity analyses outside of California.

While Draft MOVES2009 is not intended for official SIP and/or conformity submissions to EPA, states may want to consider using this draft release to perform any informal GHG inventory work they may have planned. Even in its draft form, MOVES2009 is considered the best available model for state and local GHG modeling exercises.

Q8. How will emission estimates using Draft MOVES2009 compare to those of MOBILE6.2? Why may they be different?

A8. As part of its own internal testing, EPA has performed a preliminary comparison of Draft MOVES2009 to MOBILE6.2 using local data for several different urban counties, varying the local data used by fleet age distribution, fraction of light- and heavy-duty VMT, local fuel specifications, meteorology, and other input factors. The results described here are based on the most recent data available and will vary depending on actual local inputs. EPA’s findings are described below, by criteria pollutant.

For hydrocarbons (HC), based on analysis of newer in-use data, EPA found that emissions from newer technology vehicles are lower, especially for evaporative emissions.

For oxides of nitrogen (NOx), EPA has found that emissions from both light- and heavy-duty trucks are higher than previously estimated. In Draft MOVES2009, emissions estimates are based on EPA’s analysis of I/M testing data, which incorporates in-use emissions data on a very large number of vehicles with model years from the mid-1990s to 2004. For heavy-duty trucks, Draft MOVES2009 incorporates newer “real world” data from on-road testing. In Draft MOVES2009, uncontrolled extended idle emissions from heavy-duty vehicles are projected to become a significant share of the mobile source NOx inventory in the future, assuming no change in extended idle activity as a fraction of total activity.

For fine particulate matter (PM2.5), Draft MOVES2009 increases the Agency’s estimates of emissions for both light- and heavy-duty vehicles. For passenger cars and light trucks,
these increases are based on data developed as part of EPA's Kansas City study, which showed much higher PM2.5 emissions at low ambient temperatures than previously known. For heavy-duty trucks, Draft MOVES2009 incorporates new data from a large study of trucks conducted by the Coordinating Research Council (known as the CRC E-55 study) which includes deterioration effects on in-use emissions. Draft MOVES2009 also models the impact of vehicle speed and load on PM emissions, showing very large rates of PM generation in stop-and-go traffic conditions.

Q9. **How are the changes in emission rates in Draft MOVES2009 anticipated to affect attainment demonstrations?**

A9. When considering how the change to MOVES2009 may affect attainment demonstrations, the relative reduction in emissions between a base year and an attainment year is often more important than absolute increases or decreases in emissions. Preliminary modeling by EPA indicates larger relative reductions in PM2.5 and volatile organic compound (VOC) emissions over time in Draft MOVES2009 compared to MOBILE6.2, but smaller NOx reductions. Once again, these results will vary based on local inputs in a given nonattainment area, with local variations in fleet age distribution and composition having a significant influence on the final results.

Q10. **How are the changes in Draft MOVES2009 anticipated to affect I/M program credit?**

A10. The shift to the MOVES emissions model will also have an impact on the emission reductions credited to I/M programs. Because of the updated data included in MOVES2009, on average, such programs can expect to see roughly 20-70% less credit than previously claimed, depending upon the criteria pollutant and evaluation year being considered. The reasons for this reduced credit are two-fold.

First, in the area of in-use deterioration, Draft MOVES2009 – like MOBILE6.2 before it – continues the “good news” trend of in-use, light-duty vehicles staying cleaner, longer. One side-effect of this trend is that I/M programs (which reduce emissions by identifying cars in need of repair and getting them fixed) will achieve less SIP credit than previously projected because there are fewer vehicles in need of repair than originally believed.

Second, Draft MOVES2009 reflects updated information regarding the public’s response rate to an illuminated “Check Engine” light for areas without I/M to create the incentive for fixing a vehicle in need of emissions repairs. Previously, it was assumed that the public response rate dropped off sharply as soon as the vehicle was outside its warranty period. Data collected more recently by the Coordinating Research Council (CRC) suggests, however, that the response rate is actually relatively high, even without I/M and/or warranty coverage to act as an incentive. As a result, Draft MOVES2009 attributes significantly less credit to OBD-based I/M than previously projected.

Taken together, these two aspects of Draft MOVES2009 result in I/M programs receiving roughly 20-70% less SIP credit than previously projected because data shows that
I/M is not as important for enforcing OBD-triggered repairs as previously believed. The emission reductions resulting from the public’s voluntary response to OBD will now be accounted for in the baseline emissions inventory as opposed to being credited to the effects of I/M. As suggested above, this result is good news for the environment because it means that in-use light-duty vehicles are continuing to stay cleaner, longer, and that motorists are getting the message that the “Check Engine” light is not something to be ignored.

**Q11. Why is EPA changing its estimates of vehicle emissions?**

**A11.** Over the last ten years, EPA’s in-use data about technologies such as Tier 2, OBD II and enhanced evaporative emission control systems has dramatically improved. For MOVES, EPA has been able to carefully study these newer technologies, examining millions of results for light-duty vehicles. A detailed analysis of 70,000 vehicles in Arizona’s I/M program provided information on how vehicles from the late-1990’s and early 2000’s age. Information on even newer vehicles was captured in nearly 2,000 manufacturer compliance tests. Other I/M and remote sensing data and special purpose studies helped EPA to better understand trends in HC, carbon monoxide (CO) and NOx emissions for light-duty cars and trucks. EPA found little change in HC and CO from our original MOBILE6 projections, but a noticeable increase in NOx emissions.

Also in support of MOVES development, the Agency conducted a landmark study of PM emissions, testing nearly 500 gasoline-fueled light-duty cars and trucks in Kansas City, Missouri. Because PM emissions are technically difficult to measure, the Kansas City study – a collaborative effort including EPA, the Department of Transportation (DOT), the Department of Energy (DOE), and the automotive and petroleum industries – represents the largest such study ever conducted. The Kansas City study confirmed that PM emissions from light-duty gasoline-fueled vehicles are higher than earlier predicted, and clearly showed that cold ambient temperatures can dramatically increase PM start emissions. The MOVES model includes these dramatic increases in PM start emissions at low temperatures.

EPA’s understanding of emissions from heavy-duty vehicles has continued to improve since our last model was issued. Most earlier heavy-duty emission rates were based on certification tests of then-new, mid-1990’s engines. For MOVES, EPA has been able to analyze data on more than 400 in-use trucks, some in the laboratory and some with on-road measurement equipment. This allowed the Agency to understand how real trucks pollute at a range of speeds and driving conditions. EPA also has been able to better incorporate emissions from heavy duty diesel crankcase ventilation and from extended idling (also known as “hotelling”) – two emission processes that were relatively unstudied at the time MOBILE6.2 was developed. The incorporation of this additional data accounts for the increases in heavy duty NOx and PM emissions reflected in MOVES. Emission differences in MOVES are especially large for heavy duty PM emissions because they reflect updated data on the effects of both speed and vehicle deterioration not previously available.
It must be stressed that, despite the discussion above, Draft MOVES2009 is a draft model and there will likely be some changes between the draft and final version with regard to emission rates. Furthermore, emission rates in the official MOVES will eventually need to be updated and improved as a result of future research. Future emission rate changes will be easier, however, due to the improved structure of MOVES, which stores emission rates in an easily updated database. EPA expects that future model updates will be more frequent, resulting in a model that better reflects how changing vehicle technology and control strategies affect the emissions inventory.

Q12. Why is EPA releasing a draft version of the MOVES model at this time?

A12. EPA is releasing Draft MOVES2009 now to give users the opportunity to gain practical experience with MOVES2009’s new user inputs and output formats, and to solicit user comments in time to make additional improvements to the model prior to its official release. User review of the draft model is essential because EPA staff cannot foresee and test all the scenarios in which the MOVES model will be used. Identifying user concerns quickly will allow EPA staff to address many concerns prior to December 2009. Meeting the December 2009 release deadline is important so that states will be able to make use of MOVES2009 for the next round of SIP submissions, which are expected to be due in 2012.

Q13. What should users know prior to using the Draft MOVES2009 model?

A13. As mentioned above, EPA is anticipating changes to Draft MOVES2009 based on its own testing of the model. A list of these anticipated changes will be posted and updated regularly at the MOVES website at http://www.epa.gov/otaq/models/moves/index.htm. Users who believe they may have identified an issue with Draft MOVES2009 or need technical support are asked to contact EPA at mobile@epa.gov with a description of the issue. Please be sure to include electronic copies of both the input and output files that illustrate the issue in question.

EPA also strongly recommends that potential users of Draft MOVES2009 take advantage of training that will be offered jointly by EPA and FHWA so they can gain practical experience with running the model prior to its official release in December 2009 (training opportunities will be posted at http://www.epa.gov/otaq/models/moves/index.htm as they are scheduled). Concerning other recommended training, knowing MySQL is not necessary for simple runs, but some basic knowledge of the MySQL database management software package will give users greater flexibility to customize MOVES2009 outputs to meet their needs. For more advanced analyses such as official SIP and/or conformity submissions, it is highly recommended that states develop in-house expertise in using MySQL prior to the official release of MOVES2009 in December.

Lastly, with regard to the computer system requirements needed to run the Draft MOVES2009 model, EPA recommends the following minimum system specifications: processor – dual-core; memory – 1 GB RAM; storage – 40 GB; operating system: Windows XP or 32-bit Vista. As is often the case when running computer-based applications,
a faster processor, more memory, and greater storage capacity will improve the speed at which the model performs user runs.

Q14. Given that EPA anticipates changes to Draft MOVES2009, should state and local modelers wait to try MOVES2009 until EPA releases the official version in December 2009?

A14. EPA recommends that state and local modelers get trained and begin using Draft MOVES2009 as soon as possible. Although every effort has been made to make MOVES2009 as user-friendly as possible, it is a new model with different input requirements and different output formats. Users will need to think about how to collect and process local input information in different ways, and they will need to develop new methods for post-processing model output. Users should start making the shift now by getting trained (visit http://www.epa.gov/otaq/models/moves/index.htm for information on training opportunities) and by performing trial runs with Draft MOVES2009. EPA's future SIP and conformity policy guidance will address the timing of using MOVES2009 for these official purposes.
FACT SHEET
PROPOSED REVISIONS TO THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR NITROGEN DIOXIDE

SUMMARY OF ACTION

• On June 26, 2009, EPA proposed to strengthen the primary National Ambient Air Quality Standards (NAAQS) for nitrogen dioxide (NO2). The proposed changes would protect public health, especially the health of sensitive populations – people with asthma, children and the elderly.

• EPA is proposing to establish a new 1-hour NO2 standard at a level between 80 – 100 parts per billion (ppb). This standard would protect against health effects associated with short-term exposures to NO2, which are generally highest on and near major roads. The Agency is taking comment on alternative levels for the 1-hour standard down to 65 ppb and up to 150 ppb.

• EPA is also proposing to retain the current annual average NO2 standard of 53 ppb.

• In addition to proposing an averaging time and a range of levels for the standard, EPA is also proposing a “form” for the standard. The form is the air quality statistic that is compared to the level of the standard to determine if an area meets the standard.

   For the new 1-hour NO2 standard, EPA is proposing that the form be a 3-year average of the 4th highest daily maximum 1-hour average concentration in a year, or a 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour average concentrations. (The 99th percentile for a year corresponds approximately to the 4th highest daily maximum.)

• EPA is also proposing changes to the ambient air monitoring and reporting requirements for NO2. Changes to the NO2 air quality monitoring network would include:
   • monitors in locations to measure peak concentrations that occur over shorter periods of time to support the proposed 1-hour standard. These locations will typically be near major roads in urban areas because cars, trucks and other mobile sources are key contributors to the maximum outdoor NO2 concentrations.
   • monitors in large urban areas to measure the highest concentrations of NO2 that occur over wider areas.

• This proposed suite of health-protective standards would protect public health by reducing people’s exposure to high short-term concentrations of NO2 – which generally occur near major roads – and assure that community-wide NO2 concentrations remain below levels that may cause public health problems.
• As an alternative to the proposed approach, EPA is requesting comment on supplementing the current annual standard with a community-wide 1-hour NO$_2$ standard in the range of 50 – 75 ppb. Monitoring near major roads would not be required under this alternative.

• Also as part of this notice, EPA is proposing an approach for implementing the proposed 1-hour NO$_2$ standard.

• EPA will accept comments for 60 days after the proposed rule is published in the Federal Register. In addition, the Agency will hold two public hearings on the proposed rule in August 2009 in Los Angeles and Arlington, VA

• The proposed changes would not affect the secondary NO$_2$ standard, set to protect public welfare. EPA is considering the need for changes to the secondary standard under a separate review.

**NO$_2$ AND PUBLIC HEALTH**

• Current scientific evidence links short-term NO$_2$ exposures, ranging from 30 minutes to 24 hours, with an array of adverse respiratory effects including increased asthma symptoms, worsened control of asthma, and an increase in respiratory illnesses and symptoms. These effects are particularly important for asthmatics.

• Studies also show a connection between short-term exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations including children, the elderly, and asthmatics.

• NO$_2$ concentrations in vehicles and near major roads are appreciably higher than those measured at monitors in the current network. In-vehicle concentrations can be 2-3 times higher than those measured at nearby community-wide monitors. Near-road (within about 50 meters) concentrations of NO$_2$ have been measured to be approximately 30 to 100 percent higher than concentrations away from major roads.

• Individuals who spend time on or near major roads can experience short-term NO$_2$ exposures considerably higher than measured by the current network, which are of particular concern for at-risk populations, including people with asthma, children, and the elderly.

• EPA’s National Ambient Air Quality Standard for NO$_2$ is designed to protect against exposure to the entire group of nitrogen oxides. NO$_2$ is the component of greatest concern and is used as the indicator for the larger group of nitrogen oxides. The sum of nitric oxide (NO) and NO$_2$ is commonly called nitrogen oxides or NO$_x$. Other nitrogen oxides include nitrous acid and nitric acid.
• Emissions that lead to the formation of NO₂ generally also lead to the formation of other NOₓ. Control measures that reduce NO₂ can generally be expected to reduce population exposures to all gaseous NOₓ. This may have the important co-benefit of reducing the formation of ozone and fine particles both of which pose significant public health threats.

• NOₓ react with ammonia, moisture, and other compounds to form small particles. These small particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease, such as emphysema and bronchitis, and can aggravate existing heart disease, leading to increased hospital admissions and premature death. EPA’s NAAQS for particulate matter (PM) are designed to provide protection against these health effects.

• Ozone is formed when NOₓ and volatile organic compounds react in the presence of heat and sunlight. Children, the elderly, people with lung diseases such as asthma, and people who work or exercise outside are at risk for adverse effects from ozone. These include reduction in lung function and increased respiratory symptoms as well as respiratory-related emergency department visits, hospital admissions, and possibly premature deaths. EPA’s NAAQS for Ozone are designed to provide protection against these health effects.

IMPLEMENTING THE PROPOSED NO₂ STANDARDS

• EPA is also outlining the Clean Air Act requirements that states must address to implement a new or revised NO₂ air quality standard.

• EPA is proposing a schedule for implementing the proposed new standard.

• EPA will issue the final primary national air quality standard for NO₂ by January 22, 2010. If EPA promulgates a new standard for NO₂, the Agency expects to identify or “designate” areas as meeting or not meeting the standard or as unclassifiable by January 2012, within two years of the effective date of the standard. In the event of insufficient information, the Clean Air Act provides that EPA can take an additional year to designate areas.

• EPA is also proposing not to establish classifications based on the severity of air quality in the areas designated as nonattainment.

IMPLEMENTING THE PROPOSED NO₂ MONITORING NETWORK

• EPA is proposing specific minimum requirements to guide the placement of new NO₂ monitors in urban areas. These would include:
  • At least one monitor would be located near a major road in any urban area with a population greater than or equal to 350,000 people. A second
monitor would be required near a major road in areas with either:
(1) population greater than or equal to 2.5 million people, or
(2) one or more road segment with an annual average daily traffic (AADT) count greater than or equal to 250,000 vehicles.
• A minimum of one monitor would be placed in any urban area with a population greater than or equal to 1 million people to assess community-wide concentrations.

• EPA also is proposing specific criteria for siting new NO₂ air quality monitors near major roads. These include identifying road segments ranked with the highest traffic levels by AADT and identifying locations where the highest peak concentrations of NO₂ are expected to occur, and placing monitors no more than 50 meters (about 164 feet) away from the edge of the nearest traffic lane.

• EPA estimates that these proposed NO₂ monitoring requirements would require approximately 165 NO₂ monitoring sites near major roads in 142 urban areas. An additional 52 monitoring sites would be required to assess community-wide levels in urban areas.

• Some NO₂ monitors already in operation may meet the proposed community-wide monitoring siting requirements.

• EPA is proposing to require all new NO₂ monitors to be operational by January 1, 2013. EPA also is proposing changes to data reporting requirements.

• EPA Regional Administrators would have the authority to require additional monitoring in certain circumstances, such as in areas impacted by major industrial point sources or a combination of sources. The Regional Administrators would also have the authority to require additional near-road monitoring in urban areas where multiple peak concentration areas may be caused by a variety mobile source factors including fleet mix, traffic congestion patterns, or terrain. Additional community-wide monitors may be needed to support photochemical and particle pollutant assessment or air quality forecasting, and air quality index reporting.

• Any further requirements established by EPA Regional Administrators would likely necessitate additional monitors and states are also likely to maintain operation of a portion of existing monitors to meet state-specific objectives.

BACKGROUND
The Clean Air Act requires EPA to set national ambient air quality standards for “criteria pollutants.” Currently, nitrogen oxides and five other major pollutants are criteria pollutants. The others are ozone, lead, carbon monoxide, sulfur oxides, and particulate matter. The law also requires EPA to periodically review the standards and revise them if appropriate to ensure that they provide the requisite amount of health and environmental protection and to update those standards as necessary.

Nitrogen dioxide (NO₂) is one of a group of highly reactive gasses known as “oxides of nitrogen.” NO₂ forms quickly from emissions from cars, trucks and buses, power plants, and off-road equipment. In addition to contributing to the formation of ground-level ozone, and fine particle pollution, NO₂ is linked with a number of adverse effects on the respiratory system.

EPA first set standards for NO₂ in 1971, setting both a primary standard (to protect health) and a secondary standard (to protect the public welfare) at 53 ppb, averaged annually. The Agency has reviewed the standards twice since that time, but has chosen not to revise the standards at the conclusion of each review.

Under a judicial consent decree, EPA must complete this review of the primary NO₂ standard by January 22, 2010. The current review focuses only on the primary NO₂ standard. EPA will address the secondary standard for NO₂ as part of a separate proposal in 2010.

All areas presently meet the current (1971) NO₂ NAAQS, with annual NO₂ concentrations measured at community-wide monitors well below the level of the standard (53 ppb). Annual average ambient NO₂ concentrations, as measured at community-wide monitors, have decreased by more than 40 percent since 1980. Currently, the annual average NO₂ concentrations range from approximately 10-20 ppb.

EPA expects NO₂ concentrations will continue to decrease in the future as a result of a number of mobile source regulations that are taking effect. Tier 2 standards for light-duty vehicles began phasing in during 2004, and new NOₓ standards for heavy-duty engines are phasing in between 2007 and 2010 model years. Current air quality monitoring data reflects only a few years of vehicles entering the fleet that meet these strict NOₓ standards.

HOW TO COMMENT

EPA will accept comment on the proposal for 60 days after publication in the Federal Register. Comments, identified by Docket ID No. EPA-HQ-OAR-2006-0922, may be submitted by one of the following methods:

- www.regulations.gov: follow the on-line instructions for submitting comments.
– E-mail: Comments may be sent by electronic mail (e-mail) to a-and-r-Docket@epa.gov, Attention Docket ID No. EPA-HQ-OAR-2006-0922.

– Fax: Fax your comments to: 202-566-1741, Attention Docket ID. No. EPA-HQ-OAR-2006-0922.


• Hand Delivery or Courier: Deliver your comments to: EPA Docket Center, 1301 Constitution Ave., NW, Room 3334, Washington, D.C. Such deliveries are only accepted during the Docket’s normal hours of operation, and special arrangements should be made for deliveries of boxed information

FOR MORE INFORMATION

• To download a copy of the final rules, go to EPA’s Web site at: http://www.epa.gov/air/nitrogenoxides.

• Today’s proposed rule and other background information are also available either electronically at http://www.regulations.gov, EPA’s electronic public docket and comment system, or in hardcopy at the EPA Docket Center’s Public Reading Room.

• The Public Reading Room is located in the EPA Headquarters, Room Number 3334 in the EPA West Building, located at 1301 Constitution Avenue, NW, Washington, DC. Hours of operation are 8:30 a.m. to 4:30 p.m. eastern standard time, Monday through Friday, excluding Federal holidays.

• Visitors are required to show photographic identification, pass through a metal detector, and sign the EPA visitor log. All visitor materials will be processed through an X-ray machine as well. Visitors will be provided a badge that must be visible at all times.

• Materials for this proposed action can be accessed using Docket ID No. EPA-HQ-OAR-2006-0922.