

State of California
AIR RESOURCES BOARD

STAFF REPORT

PROPOSED

**REGIONAL GREENHOUSE GAS EMISSION REDUCTION
TARGETS FOR AUTOMOBILES AND LIGHT TRUCKS PURSUANT
TO SENATE BILL 375**

Date of Release: **August 9, 2010**

Scheduled for Consideration: **September 23, 2010**

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Comments

This report will be considered at a meeting of the Board, which will commence on September 23, 2010. Interested members of the public may present comments orally or in writing at the meeting.

Comments may also be submitted by postal mail or by electronic submittal before the meeting. To be considered by the Board, written comment submissions on the Staff Report and proposed targets that are not physically submitted at the meeting must be received no later than 12:00 noon, September 22, 2010, and addressed to the following:

Postal mail: Clerk of the Board, Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Please note that for electronic submittal, the webpage provided above has a link for comments on the Staff Report and proposed targets, as well as a separate link for commenting on the CEQA Functional Equivalent Document.

For commenting on the Staff Report and proposed targets:
The link is titled "2010SB375".

The Board requests, but does not require 20 copies of any written submission. Also, ARB requests that written and e-mail statements be filed at least 10 days prior to the meeting so that ARB staff and Board members have time to fully consider each comment.

Please note that under the California Public Records Act (Government Code section 6250 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request. Additionally, this information may become available via Google, Yahoo, and any other search engines.

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INTRODUCTION

By 2020, California's population will reach over 44 million people and over 51 million people by 2035¹. We have the opportunity to accommodate this growth in a way that is environmentally and economically sustainable, but it will require changes in the way we plan.

California has embarked on a program to integrate long-range land use, housing and transportation planning at a regional level, with the goal of creating communities that are healthier and more sustainable. In the communities of the future, homes and jobs, recreation and education, shopping and health care, will be more accessible with less dependency on the single-occupant vehicle. Community decisions about transportation infrastructure, housing supply and land use patterns will be informed by a regional strategy that demonstrates the environmental benefits of one choice over the other.

This program is set forth in a new State law, Senate Bill 375, also known as the Sustainable Communities and Climate Protection Act of 2008. As a first step in this process, the Air Resources Board (ARB) must establish greenhouse gas reduction goals for each of the 18 Metropolitan Planning Organizations (MPO), which together represent nearly 98 percent of the State's population and emissions. These goals will be in the form of regional targets for 2020 and 2035 and are directed at emissions from passenger vehicles and light trucks. Each region will develop its own unique plan, known as a Sustainable Communities Strategy, for meeting its targets through a locally driven process.

The benefits of integrated planning and sustainable development go far beyond simply reducing the greenhouse gas emissions that contribute to climate change and its damaging effects. Communities that are well designed provide housing for all income groups, and are supported by a range of transportation options that will have many other advantages. Among these are: increased mobility and transportation choices; reduced congestion; greater housing choices; improved public health as a result of better air and water quality; natural resource conservation; economic benefits such as opportunities for neighborhood economic development and lower costs for community infrastructure; reduced dependence on foreign oil; and greater equity through the provision of improved access to jobs, housing, and everyday needs.

ARB developed proposed regional targets through an extensive public process over the past 18 months, with significant contributions from the affected MPOs. Substantial data and analysis, developed by the regions, served as the basis for predicting the amount of change that can reasonably be expected in coming

¹ State of California, Department of Finance, [Population Projections for California and Its Counties 2000-2050, by Age, Gender and Race/Ethnicity](#). Sacramento, California, July 2007.

decades and demonstrated significant regional differences which are reflected in the targets. This bottom-up approach to target setting has resulted in an unprecedented and positive relationship between the State and regions, creating an environment for continued collaboration in the years ahead as ARB continues to periodically review and revise the targets.

The proposed targets for the four largest MPOs, which represent most of the State's population and projected growth, are remarkably similar and demonstrate the regional cooperation and healthy competition that has occurred over the past year. The eight MPOs in the San Joaquin Valley have special challenges in terms of resources and technical capability, and they are exploring the potential for collaboration on a multi-regional planning process. For these and other reasons, the proposed targets for the San Joaquin Valley MPOs are set at a level which will move them away from business as usual, but should be reevaluated before their next plans are due in 2014. The six remaining regions, representing a small fraction of the State's total population and emissions, are even more limited in their ability to generate the forecasts and data needed to provide a strong technical basis for setting targets. Therefore, ARB staff proposes targets that reflect the current projections in their most recently adopted regional plans or forecasts, with a commitment to reset the targets in 2014 once improved modeling tools and planning processes are available.

SB 375 has brought into focus the opportunity to align numerous statewide and community goals through better, more integrated planning. But the process over the past 18 months has also shown that we need to improve the tools and commit the resources necessary to effect change. Existing travel models and forecasting tools were not designed to meet the challenges of SB 375; the financial resources to plan and build supporting infrastructure is in short supply; and local governments need incentives to implement regional planning strategies. Local governments retain the decision-making authority over land use, and their participation in this new planning process is voluntary. There will be costs associated with developing and implementing Sustainable Communities Strategies and current economic conditions make it difficult for many local agencies to commit the necessary resources. State government needs to work with the regions to obtain the incentives and financial resources necessary to meet, and even exceed, the targets set by ARB.

A significant amount of discussion over the past 18 months revolved around the expectation of additional benefits (co-benefits) from sustainable community planning, and the need for social equity to be given sufficient consideration in the regional planning process. Planning strategies that promote social equity, such as affordable housing, accessible transit, and jobs-housing fit, are recognized as effective means of reducing greenhouse gas emissions. MPOs should promote equitable land use and transportation practices that result in inclusion, accessibility, efficient use of land, and decreased emissions. ARB encourages MPOs to develop planning models that can estimate the potential global warming

and other co-benefits, including social equity, of various land use options as they develop regional plans.

Comprehensive long-term planning takes time and resources. It will take time for regional plans to fully reflect long-term land use and transportation changes envisioned by SB 375. The establishment of these regional targets is the first step in the right direction by shifting regional and local planning practices away from business as usual, accelerating the progress that is already taking place in many regions, and encouraging others to move in the same direction. An incremental approach will allow MPOs and local governments to begin a constructive and collaborative planning process in this first target setting cycle, with expectations of higher goals in the future as ARB continues to update targets to meet the long-term objectives of SB 375.

The process set forth in SB 375 requires a long-term commitment to better planning. ARB welcomes the opportunity for continued partnership with other State agencies, regional planning agencies, and local governments to advance the goals of sustainable development and help to secure the resources needed to make sustainable communities a reality.

ARB staff is proposing per capita greenhouse gas reductions of 7 to 8 percent in 2020, and between 13 and 16 percent in 2035 for each of California's largest urban areas through regional land use and transportation strategies. These benefits are magnified when California's vehicle and fuels programs to reduce greenhouse gases are taken into account.

I. CALIFORNIA'S SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT OF 2008

California's Sustainable Communities and Climate Protection Act of 2008 (SB 375), modified State law to encourage better integration of transportation and land use planning in ways that reduce greenhouse gas emissions. It requires each of the State's 18 federally designated Metropolitan Planning Organizations (MPO) to explicitly consider the impact of land use patterns and transportation choices on greenhouse gas emissions. MPOs must develop a sustainable communities strategy, or alternative plan, that meets a greenhouse gas emission reduction target for passenger vehicles which is set by ARB. In addition to reducing greenhouse gas emissions, a sustainable communities strategy is expected to provide other benefits including increased mobility, cleaner air, improved health, and protection of natural resources.

PLANNING PROCESS CHANGES

SB 375 adds a sustainable communities strategy (SCS) as a new element in the Regional Transportation Plan (RTP) that MPOs prepare every four or five years. The SCS element adds more detail to the land use allocations in RTPs, and is intended to reflect a more integrated approach to land use and transportation planning. Within this integrated land use pattern and transportation network, the MPO must identify the general location of different land use types, residential densities, and areas to house the region's population. The MPOs must demonstrate that their SCS meets the target set by ARB or do an alternative planning strategy (APS) that shows how the target could be met.

SB 375 provides MPOs the flexibility to develop a SCS tailored to regional needs. The targets can be achieved through any combination of land use patterns, transportation system improvements, and transportation-related measures or policies developed at the local and regional level.

While SB 375 requires regions to consider a variety of greenhouse gas emission reduction strategies, it reaffirms local government authority over land use decisions, and recognizes the critical role local governments play in implementing these kinds of strategies. Local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. Thus, local land use decisions are central to the long-term sustainability of California's communities.

Each MPO, in collaboration with its local government members and public stakeholders, must prepare the sustainable communities strategy through a transparent, public process. The law emphasizes the importance of providing the public with a clear understanding of the different policy choices and associated impacts of the strategies being considered. To do this, the law suggests that

visual representations be used in the public forum to help communicate proposed development strategies, and that technical modeling analyses be made available and understandable to the public. MPOs will prepare their first SCS according to their respective update schedule, which means that they will be prepared at different times over the next four years (see Appendix A for the MPO RTP update schedule).

To encourage regions and local communities to make more sustainable planning decisions, SB 375 creates some performance-based incentives. These incentives provide streamlined regulatory review for certain types of residential and mixed use development projects under the California Environmental Quality Act (CEQA). These incentives are available only to qualifying projects within a region in which either the sustainable communities strategy or the APS is shown to achieve the SB 375 greenhouse gas emission reduction targets set by ARB.

SB 375 also encourages regions to consider financial incentives for cities and counties that have resource areas or farmland, and for counties that implement policies for growth to occur within their cities². Creating financial incentive opportunities, and the funding sources that enable them, will be critical to the success of SB 375 implementation.

Improving integration of long-range regional land use and transportation planning, as envisioned in SB 375, is anticipated to help communities address planning challenges beyond climate change, including the challenge of planning for future housing demand, responding to demographic shifts, conserving limited natural resources, and ensuring economic vitality of urban areas.

REGIONAL TARGETS ADVISORY COMMITTEE

SB 375 required ARB to appoint a Regional Targets Advisory Committee (RTAC) to make recommendations on factors to be considered and methodologies to be used when setting the greenhouse gas reduction targets. To meet the diverse representation requirements mandated by SB 375 and ensure strong local input into target setting, ARB established a 21 member committee with representatives from MPOs; air districts; local governments; transportation agencies; homebuilders; environmental, planning, affordable housing and environmental justice organizations; and members of the public. The RTAC submitted a report to ARB in September 2009, which covered many broad issues, including the form of the target, a collaborative bottom-up target setting approach with MPOs, the status and use of modeling tools, the need for incentives, and the implementation challenges facing local governments, among others.

² Government Code 65080(b)(4)(C)

AIR RESOURCES BOARD ROLE

ARB's primary responsibility is to set greenhouse gas emissions reduction targets for passenger vehicles for each of California's 18 federally designated MPOs by September 30, 2010. Targets are to be set for 2020 and 2035. In establishing the targets, ARB must take into account greenhouse gas reductions that will come from improved vehicle emission standards, changes in fuel composition, and other measures that it has adopted.

ARB is to engage in regional consultation prior to setting targets, by exchanging information with each affected MPO and air district, and considering any suggested targets submitted by the MPOs. SB 375 also recognizes that updates to the targets will be needed over time, and allows four year updates based on changes in any of a number of identified factors that were considered in setting the initial target. Updates are required at least every eight years.

Before developing a sustainable communities strategy, each MPO is to share its methodology for estimating greenhouse gas emissions with ARB before beginning the public process. ARB is to review the methodology, provide written comments to the MPO in a timely manner, and work through any technical issues. ARB must also determine if the final strategies put forward by the MPOs will, if implemented, meet the targets.

Once an MPO formally submits its SCS or APS for review, ARB can only accept or reject the MPO's determination of whether the strategy would achieve the target. State law does not give ARB authority to revise the MPOs' strategy. If ARB determines that the strategy would not achieve the targets, the region must revise and resubmit its strategy. Once ARB determines that the targets would be met with the submitted sustainable communities strategy or alternative strategy, projects consistent with the strategy or plan may access the CEQA streamlining incentives.

CURRENT SUSTAINABLE PLANNING EFFORTS

SB 375's integrated regional approach to planning builds on the efforts of many communities in California to start developing land use plans and transportation investment strategies to support a more sustainable future.

At the municipal level these efforts include General Plan updates, Specific Plans, and local Climate Action Plans that change community programs, zoning, and infrastructure investments to result in more sustainably designed projects on the ground. Some recent examples of plans and initiatives adopted by California cities and counties can be found on the Governor's Office of Planning and Research website.³

³ See http://opr.ca.gov/ceqa/pdfs/City_and_County_Plans_Addressing_Climate_Change.pdf.

At the regional level, nearly all regions in California initiated blueprint planning efforts over the past decade⁴. These regional planning efforts emphasize a broad-based, local collaborative process for identifying a vision for regional growth. Such efforts focus on fostering efficient land use patterns that reduce vehicle travel, accommodating an adequate supply of housing, reducing impacts on valuable habitat and productive farmland, providing for more efficient use of resources, and promoting a prosperous regional economy. This type of integrated growth scenario planning is intended to guide local land use and transportation decisions towards a more sustainable future. Many of the RTPs the MPOs have in place today are beginning to reflect these initial efforts.

⁴ California Regional Blueprint Program: <http://calblueprint.dot.ca.gov/overview.html>.

II. TARGET SETTING PROCESS

ARB's approach to target setting was informed by the recommendations of a diverse advisory committee and involved extensive collaboration with the MPOs. The RTAC's recommendations served as important guidance for ARB staff in developing proposed regional targets. The information, data, and analysis provided by the MPOs⁵ in this bottom-up process were shared in real time with the public and discussed through a public process.

ADVISORY COMMITTEE RECOMMENDATIONS

Form of the Target

The RTAC recommended that targets be expressed as a percent reduction in per capita greenhouse gas emissions from a 2005 base year. The metric is simple, easily understood, and can be developed with currently available data. In addition, it is a relative metric that takes into account population growth. A per capita target recognizes that an MPO's ability to meet targets depends on how factors like population change over time. The year 2005 was recommended as the base year because it was the most recent year that could be used uniformly for all MPOs.

Impacts of the Recession

The RTAC also discussed the need to consider the impacts of the recession in the target setting process. The state of the housing market, tightening of the credit market, and high unemployment, create significant uncertainties for near-term planning. The precise timing of recovery from today's housing market downturn continues to be uncertain⁶. New construction activity will likely continue to be modest through 2015.⁷

In terms of population growth, current forecast information for California suggests that the recession is not expected to have long-term impacts. Since the current recession is nationwide, California is not losing as many people to other states as it did during the economic slowdown in the 1990s⁸. In the near term, the State's population is not projected to hit the peak annual growth of over 700,000 reached in the 1980s. However, average annual population growth of nearly 500,000 or 1.3 percent is projected over the next decade, leading California to reach a statewide population of over 44 million people by 2020 and over 51 million

⁵ A listing of MPO data and analysis is included as Appendix B. MPO information is posted online at: <http://www.arb.ca.gov/cc/sb375/data/data.htm>.

⁶ Center for Continuing Study of the California Economy, *2009-2010 Projections*, p. 1-7

⁷ Ibid.

⁸ State of California, Department of Finance, *Review of Department of Finance's Long-Term 2007 Population Projects Memo*: <http://www.arb.ca.gov/cc/sb375/data/data.htm>.

people by 2035⁹. The majority of these people, over 98 percent, are expected to live, work, and play in the regions affected by SB 375.

Other Technical Recommendations

ARB staff used the RTAC recommendations to guide the process for working with the MPOs and the public to develop proposed targets. Multiple technical considerations raised by the RTAC were also integral to ARB staff's work. These included use of modeling, need for common modeling assumptions, treatment of interregional travel, and other factors. The recommendations also highlighted the need for improved modeling tools which resulted in ARB funding work by the University of California to help provide some of the needed improvements.

Incentives and Funding

The RTAC report provides an important perspective on the need for incentives and enhanced transportation funding in order to successfully implement SB 375. Funding is also essential to support the planning process envisioned by SB 375. ARB staff's proposal reflects an expectation that ARB will partner with local and regional governments to identify and pursue the funding and incentives necessary to meet ambitious SB 375 targets.

The full RTAC report can be found on ARB's website.¹⁰

⁹ State of California, Department of Finance, [Population Projections for California and Its Counties 2000-2050, by Age, Gender and Race/Ethnicity](#), Sacramento, California, July 2007.

¹⁰ Recommendations of the Regional Targets Advisory Committee (RTAC) Pursuant to SB 375, September 29, 2009, available online at: <http://www.arb.ca.gov/cc/sb375/rtac/rtac.htm>.

TECHNICAL CONSIDERATIONS IN TARGET SETTING

In the process of developing proposed targets, ARB staff received public comment on several topics that should be considered in target setting. The written comments can be found on the ARB website¹¹. Of the more technical considerations, the following stand out: regional population, existing land use and travel patterns, and the ability of transportation models to fully account for the benefit of land use and transportation strategies that reduce greenhouse gas emissions. These issues are important statewide but are also reflective of regional differences. Population, growth rates, regional development and travel patterns, as well as technical resources and experience, have all been identified as factors that impact how much change can be expected from a given region over a period of time.

Regional Population

Both current population and expected population growth affect the relative contribution of a region to statewide greenhouse gas emissions. The most populated regions contribute most of the emissions, while the fastest growing regions offer a relatively greater opportunity for change. Both considerations are important.

In California, about 82 percent of the State's population resides in four major MPO regions: the Southern California Association of Governments (SCAG), the Metropolitan Transportation Committee (MTC), the San Diego Association of Governments (SANDAG), and the Sacramento Area Council of Governments (SACOG). Over the next 25 years, the population within these regions is expected to grow by over 35 percent to over 40 million people, representing 79 percent of the State's total population in 2035.¹²

Also significant is the high population growth rate projected between 2020 and 2035 in the San Joaquin Valley MPOs, which cover the counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Kern. Currently these MPOs represent about 10 percent of the State's population. However, beyond 2020 the San Joaquin Valley is expected to experience growth more than double the rate of the rest of the State. By 2035, population is expected to exceed seven million, representing 14 percent of the statewide population.¹³

Currently, three different data sources for long-term population projections are considered for regional planning purposes. These include projections prepared by the U.S. Census Bureau, the California Department of Finance (DOF) and those prepared by the MPOs themselves. For regional transportation planning

¹¹ Public comments can be viewed at: <http://www.arb.ca.gov/cc/sb375/sb375.htm>.

¹² Calculated using State of California, Department of Finance, [Population Projections for California and Its Counties 2000-2050](#), Sacramento, California, July 2007.

¹³ Ibid.

purposes, most MPOs use their own population projections. For target setting purposes, use of MPO-provided population projections provides the most consistency with the population projections used in the RTPs, as well as with the State's regional housing needs allocation (RHNA) program, provided that they are within three percent of DOF projections¹⁴. Given the planned release of the 2010 Census results in April of next year, it is anticipated that current population projections from these sources will be recalibrated¹⁵. Given the direct relationship between population and per capita targets, this new information will need to be evaluated as SB 375 is implemented.

Land Development and Travel Patterns

A region's existing land development and travel patterns can also affect an area's choice of future land use and transportation strategies. For example, the proportion of a region's land currently in use as urban centers, suburban communities, protected lands, and agriculture, affects the strategies a region can reasonably be expected to consider in long-term planning. Regions currently characterized by, or transitioning into large urban centers are more likely to explore scenarios with a greater focus on creating higher density, mixed use places, enhancing or adding high capacity transit stations/corridors, and transportation pricing policies. Regions characterized by more rural land use types are more likely to explore options for locating public facilities and services within or adjoining rural towns, provision of demand-response and inter-city transit, and continued preservation of open space for natural resource or agricultural value.

A region's travel patterns will also affect the land use and transportation strategies a region considers. Interregional travel provides a useful example of this issue. Regions have limited ability to impact interregional travel, which includes travel to and from regions as well as travel that passes entirely through regions. These types of trips constitute a significant percentage of passenger vehicle travel in some regions like the San Joaquin Valley, but not in others, such as the SCAG region.

The existing land development and travel patterns in California's regions vary. The four major MPO regions of SCAG, MTC, SANDAG, and SACOG contain most of the State's urban development and have the greatest diversity of travel options. The area covered by the San Joaquin Valley MPOs is more rural in nature with several large cities and suburbs that are expected to grow significantly over the next 25 years. The remaining six other MPO regions

¹⁴ Government Code 65584.01(b)

¹⁵ For discussion on how US Census and DOF population projections differ by MPO region and plans for DOF recalibration see State of California, Department of Finance, Review of Department of Finance's Long-Term 2007 Population Projects Memo: <http://www.arb.ca.gov/cc/sb375/data/data.htm>.

generally are characterized by semi-rural towns and small cities, with some that are evolving from their rural agricultural roots into recreation and vacation destinations. The majority of land in these regions remains undeveloped.

To a large extent, the results of the MPOs' scenario work reflect these regional differences. Using the available tools, information, and expertise, MPOs submitted different strategy scenarios to ARB. Each reflects different approaches in response to their different regional contexts.

Demographic and Market Trends

Changes in demographics, including age distribution and household formation rates, will have a significant effect on the types of housing product and lifestyles communities need to accommodate. There is ample evidence that the demographic profiles of California's future households will look different than they do today. National data on current household types show that today, just over one third of households are what are often considered to be "traditional" households, or those with children¹⁶. Households without children make up over half of current total households and are projected to be one of the fastest-growing household types over the next 25 years, especially as more of the baby boom generation become empty nesters¹⁷. After 2010, the oldest baby boomers will reach the age of 65 and growth of the elderly population will substantially exceed that of younger adults, an unprecedented social and economic development. This is best illustrated by the ratio of adults aged 65 and older to working-age adults (aged 25 to 64). After decades of relative stability, this ratio will surge 30 percent in the 2010s and increase further by 29 percent in the 2020s¹⁸, altering that balance.

This shift in demographics is expected to reinforce a shift from past preferences in housing and community design, towards more small-lot and attached housing in communities with enhanced urban amenities, including walkable neighborhoods. Both older and younger single adults are beginning to choose to live closer to destinations, and developers are beginning to offer products consistent with this emerging demand¹⁹.

While it takes time to go through the process of adopting new long-range plans to reflect changing trends, and several years after that to see new construction consistent with those plans, the SB 375 planning process can help communities anticipate and prepare for a changing market demand.

¹⁶ US Census Bureau, <http://www.census.gov/population/www/socdemo/hh-fam.html#ht>, Accessed on January 2009.

¹⁷ [Economic Factors Influencing the Magnitude of Change in the Land Use and Transportation Sectors](#), Presentation by Elizabeth Deakin to RTAC, April 7, 2009

¹⁸ Myers, Dowell and Ryu, SungHo. "Aging Baby Boomers and the Generational Housing Bubble: Foresight and Mitigation of an Epic Transition." *Journal of the American Planning Association* (2008): 74: 1, 17-33

¹⁹ McIlwain, John. [Housing in America: the Next Decade](#). Urban Land Institute, 2010.

Role of Transportation Modeling

One of the most significant resource differences between the MPOs is in the modeling tools and methods used for planning. Each of the 18 MPOs in California uses and maintains a travel demand model to develop and evaluate its RTPs, with varying levels of capability. Modeling results are used to help inform stakeholders and decision makers of the potential impacts of different policy choices.

A detailed self-assessment of the capabilities of the MPO travel demand models was prepared and presented to the RTAC in May 2009. This assessment revealed significant variations among the MPOs' travel demand models, both in terms of the model's capabilities to forecast impacts of land use and transportation strategies, as well as the key assumptions used by the models. Overall, the assessment identified a number of areas for improvement of travel demand models in order to achieve better sensitivity to specific land use and transportation strategies.

Over the past year, since the assessment was completed, a number of efforts have been underway to help the MPOs improve their modeling tools. Last October, the California Strategic Growth Council allocated \$12 million in Proposition 84 funds for improvement of MPO travel models and data collection around the State. This past July, ARB secured funding for a new transportation model for the San Joaquin Valley MPOs that could be used by the individual MPOs, or collectively, to provide multi-county results. These efforts will help bridge the technical gap between the MPO regions over time.

Experience with regional growth scenario planning and modeling also plays a role in how MPOs implement SB 375. A number of the more urban regions have been engaged in blueprint planning and other regional sustainable planning activities for over a decade now. These regions worked with their local communities to determine what land use and transportation strategies will work in their regions, how to analyze the possible impacts, and identify the best ways to communicate choices to stakeholders. While there is still much left to learn, each MPO has a different level of experience leading regional planning efforts that focus on sustainable communities strategies. For some, it will involve continuing to build on the momentum in place. For others, it will involve learning from other MPOs' efforts and initiating the conversation in their regions.

MPO RECOMMENDATIONS

As recommended by the RTAC, staffs of the MPOs have worked jointly, and in collaboration with ARB staff, to develop scenario analyses to inform the target setting process. Each of the major MPOs has worked to recommend targets for 2020 and 2035. This bottom-up approach involved MPOs preparing and sharing the results of policy scenario analyses for their regions. This work formed the basis for MPO recommendations on targets. However, MPO staffs in some regions have indicated that further technical work is underway, and that additional recommendations are possible before ARB takes action in September. To the extent that these recommendations represent technically grounded assessments showing that higher targets are feasible, staff encourages refinements to the current MPO recommendations.

Scenario Development Process

The purpose for developing the policy scenarios is to test the effectiveness of various land use and transportation strategies for reducing greenhouse gas emissions in 2020 and 2035. An MPO technical working group coordinated the development of various policy scenarios. The group addressed a number of technical issues including: land use and transportation strategies that could be tested in the MPO scenarios, different approaches to interregional travel, travel cost assumptions, and future revenue assumptions.

Over the course of the scenario development process, ARB staff collected substantial data and technical analyses to support the target setting process. At the outset of this work, ARB and MPO staffs recognized that regional scenarios would be different from region to region. ARB staff also recognized, however, that it was desirable to have a common understanding of how scenarios were developed, what the scenario impacts were going to be, and how impacts were going to be measured.

Many of the MPO scenarios build on existing blueprint efforts and other sustainable planning actions already occurring in the regions. While not an exhaustive list, some of the strategies evaluated by the MPOs, include increased compact development, expansion of transit networks, improved jobs-housing balance, and various pricing strategies. While these scenarios are not the official long-range plans adopted by the MPOs, they provide insight into the potential benefits that may result from different sets of local and regional land use and transportation policy decisions.

To gain a better understanding of this information, staff made significant efforts to understand each MPO's modeling capabilities, as well as the types of policies included in their scenario analyses. At the end of last year, ARB technical staff met with the modeling staffs of each of the 18 MPOs to learn about the MPOs' modeling capabilities. At the same time, staff participated in meetings with MPO

planning staffs to further understand the policies the MPOs were analyzing in their scenarios. As part of these discussions, ARB and MPO staffs developed a consistent understanding of potential SB 375 policy options and policy categories for scenario-testing purposes. (See Appendix B for a Sample List of SB 375 Policy Categories and Policies.)

Beyond its work with the MPOs, ARB staff made an effort to engage public stakeholders in helping to understand the MPO data and scenarios. The information received from the MPOs was posted on ARB's website for public review soon after it was received. In addition, staff maintained ongoing opportunities for public comment during the target setting process through its web-based comment system, and public workshops²⁰. (See Appendix C for a list of MPO data and analyses provided to ARB.)

Following the substantial work on scenario development, the MPO working group decided to continue to meet to address additional implementation issues. One item currently being discussed is the identification of performance measures that could be used to track, over the long-term, land use and transportation changes resulting from SB 375 implementation. This issue is being discussed by the MPO working group with the goal of providing suggested performance measures to ARB by the September Board meeting.

Nature of 2020 Targets

Significant change in land development patterns and transportation infrastructure takes time. SB 375 sets up a framework in which emission reduction benefits are gained as on-the-ground development patterns begin to reflect regional and local planning documents that have been influenced by the SB 375 process. Given that regional plans will be updated on a staggered schedule between 2011 and 2014, and that city and county planning document updates will follow regional plan updates, the benefits of SB 375 implementation will start slowly but substantially increase by 2035. Since a significant portion of the built environment in 2020 has been defined by decisions that have already been made, the 2020 targets are not as large as the longer term 2035 targets.

The timing of economic recovery, including the recovery of the housing market and resources for local planning and implementation, also impacts the near-term view. The nationwide recession created significant uncertainties for local planning efforts in California. Economic assumptions that were made in the last round of housing and transportation plans are likely outdated. Furthermore, local governments have seen a decline in revenues, resources, and funding for planning and infrastructure investments. Planning departments rely on city or county general funds and on developer fees to fund staff positions. Both of these revenue sources suffered in recent years

²⁰ Public comments can be viewed at: <http://www.arb.ca.gov/cc/sb375/comments.htm> and <http://www.arb.ca.gov/lispub/comm/bccommlog.php?listname=senbill375>

and many departments have cut back their planning staffs. In many cases, California cities and counties are being asked to do more with less, and planning efforts to look even five years into the future suffer as local governments attempt to deal with more immediate needs.

Many MPOs, as part of the scenario work submitted to ARB, forecasted what they believe the range of possible change could be by 2020. A number of the MPOs reported that their scenario forecasts were adjusted to account for some near-term effects of the recession. In general, these 2020 scenarios reflect the reality that more time is needed for large land use and transportation infrastructure changes, and show that most of the change expected in this time period will come from improving the efficiency of each region's existing transportation network.

Challenge of 2035 Targets

There are greater uncertainties with long-term forecasting. While significant changes in land use patterns and transportation infrastructure can be expected over the next 25 years, predicting the pace and nature of this change is challenging. There is a wide range of possibilities for key assumptions about future land use, transportation infrastructure and management strategies. Many of the tools and methods for forecasting the potential emission reductions from these types of policy changes are still being developed. Time is needed to build better information to inform long-term regional policy decisions and what changes will mean for regional emissions in 2035.

There are several forecasting assumptions that may have a significant impact on greenhouse gas emission reductions in 2035. The cost of travel is one. It can affect travel behavior by influencing mode choice, as well as the frequency and length of trips. Uncertainties in predicting the cost of travel – which may include the purchase, maintenance, and fuel for a vehicle; transit fares; or travel fees in the form of tolls, parking pricing, or other costs – add to the challenge of setting 2035 targets. In addition, although the current models used by MPOs have embedded travel costs, most do not yet account for the impacts of changes in travel cost on travel.

Transportation funding levels influence the amount of change that can occur within specific timeframes over the course of a planning period. Since MPO expenditure plans are generally front loaded to provide the most efficient use of the expected revenue, much of the impact that results from those funds occurs in the first ten years of the RTP. For example, if a significant portion of an MPO's future revenues come from a local transportation sales tax measure, it is not uncommon for regions to advance the timing of projects by issuing bonds against future sales tax proceeds. As a result, even if a sales tax measure were to sunset in 2040, the funds may already be committed well before 2035. This has the effect of reducing the available funding for projects that impact 2035. In addition, in 2035, revenue assumptions will be highly influenced by future

reauthorizations of the federal transportation bill, as well as multiple state and local budget cycles.

Land development patterns will change significantly in 25 years, but how they will change is highly uncertain. RTP land use assumptions are typically based on local jurisdictions' current general plans, which are not updated frequently and generally do not reflect even the most recent changes in land use policies. Many regions have started to discuss their future regional land development plans through regional blueprint and other sustainable planning activities. However, most regions are only just beginning to consider the extent to which these efforts can be incorporated into their RTPs.

Under SB 375, regional planning processes are likely to identify changes to key planning assumptions for 2035 and beyond which differ from assumptions that have already been formally accepted by federal agencies in prior RTPs. As SB 375 implementation shifts into MPO development of sustainable community strategies, it is important for ARB and the MPOs to continue working together, with US EPA and US DOT, to pursue an approach that supports the progressive planning encouraged by SB 375 within the context of RTPs that meet federal planning requirements.

The primary forecasting tools that must be used for this first cycle of SB 375 implementation were not originally designed for these purposes, and will continue to evolve. There have been extensive discussions about how the MPO's travel demand models do not yet adequately capture the impacts of long-term strategies addressed in SB 375, including improved land uses (e.g., density, land use mix, pedestrian design) and transportation strategies (e.g., transit service, bike/pedestrian facilities, etc.). Since improving these models will take both time and resources, MPOs are developing and beginning to use interim off-model tools (e.g. post-processing spreadsheets and sketch planning tools) to help quantify the impacts of new transportation and land use strategies on vehicle travel.

In addition, ARB staff recognizes the role of ARB's emissions model (EMFAC) in converting the travel activity and vehicle speeds from the MPO travel models into greenhouse gas emissions. Greenhouse gas emission estimates derived from EMFAC are influenced by vehicle speed assumptions; assumptions about the types, ages, and number of vehicles that are on the road in the future; as well as the CO₂ emissions per vehicle mile.

In both of these cases, it is important to understand the extent to which embedded assumptions affect the modeling results, particularly in the long-term, where those assumptions take on much greater uncertainty.

PUBLIC ENGAGEMENT

Since January 2009, ARB staff worked to engage a wide range of public stakeholders throughout the target setting process. RTAC meetings were made available via webcast, and a web-based comment system was established to provide stakeholders with a way to publicly communicate their comments to ARB staff on an ongoing basis.

On May 12, 2010, ARB held a public workshop to provide a status report on the target setting process. On June 24, 2010, the public had an opportunity to comment directly to the ARB Board at a public meeting on the draft targets. In July, ARB staff hosted a series of seven public workshops around the State. These workshops provided additional opportunities to engage the public in the discussion about regional target setting before staff developed the proposed final targets.

In addition to these efforts, MPOs around the State sponsored workgroup and workshop opportunities in their regions with sub-regional and local stakeholders to gather additional input on target setting.

STATE AGENCY INTERACTION

Recognizing that target setting is only the first major milestone in SB 375 implementation and that greater integration of State agency activities is needed to support this effort, staffs at ARB, the California Housing and Community Development Department, the California Department of Transportation, the Governor's Office of Planning and Research, and other State agencies continue to work together.

These agencies are working to integrate information from the target setting process into other statewide efforts to support sustainable community planning. California's Strategic Growth Council (SGC) is particularly active in this area. The SGC, a cabinet-level committee created in 2008, coordinates state agency activities on sustainable community planning efforts, among other things. Last October, the SGC allocated \$12 million in Proposition 84 funds to improve MPO travel models and data collection around the state, in support of SB 375 implementation at the regional level. In August, the SGC will accept grant applications for the Sustainable Communities Planning Grant Program, intended to help local governments and others engage in integrated planning efforts and adopt updated land use plans.

Under the leadership of the California Transportation Commission, these agencies and a wide range of public stakeholders, worked together to update the State's Regional Transportation Plan Guidelines to incorporate SB 375. The updated guidelines were completed in April of this year, and provide guidance on modeling protocols for MPOs to use in developing SCSs under SB 375.

In addition, the California Department of Transportation is working closely with the MPOs in the development of a statewide travel model. This effort is expected to provide a better understanding of issues that affect SB 375 planning, including interregional and goods movement travel throughout the State.

III. ARB STAFF PROPOSED REGIONAL TARGETS

The approach taken by ARB staff in proposing targets was informed by a significant amount of research, expert advice, and public input. The target setting process has increased collaboration among the technical staff of the MPOs and provided opportunity for public discussion of a new planning paradigm. The challenge has been to develop the data and information to support the initial target setting process in the face of limited tools and models and within the short time frame established in statute.

TECHNICAL FOUNDATION FOR PROPOSED TARGETS

The proposed targets are based on several key principles that have guided ARB staff's approach. These principles were shared and discussed in public meetings during the development of the draft targets.

Bottom-Up Approach

ARB staff used a bottom-up process to build the foundation for target setting using information generated by the regions and the local governments that constitute them. This approach took advantage of the expertise of the MPOs that provided baseline information and growth projections that informed scenarios about what is possible in the future target years. It relied on MPO experience in regional transportation planning, housing policy, and regional sustainability, all of which have been integral to their traditional planning role. ARB staff recognizes the expertise of the MPOs, and that the scenarios submitted to ARB are the result of both policy and technical considerations at the local and regional levels.

Best Available Information

The proposed targets are based on technically sound methodologies that use current data sets and models. A strong scientific and technical foundation is important not only for this first cycle of target setting, but will also set the stage for future updates as new information and improved modeling becomes available. The MPO scenarios constitute the best available results from region-specific modeling of policies that may be employed to meet targets, and to provide the appropriate technical grounding for the first set of regional targets. ARB staff recognizes the tremendous amount of effort by the MPOs to develop and update data and information for scenario testing and target recommendations. It is important to note that the scenario development process is intended to provide a reference point for target setting, and that the actual planning process and selection of strategies will follow at the local and regional levels.

Best Available Tools

The best available technical tools were used by the regions for forecasting and predicting changes in land use patterns and transportation systems. A significant part of the discussion in this first target setting cycle revolved around MPO modeling capabilities and the recognition that models need to be refined to capture the benefits of strategies that each MPO would implement, especially in the long-term. Nevertheless, the models are the most current, most region-specific, and have been used to meet other State and federal requirements. ARB staff recognizes that new tools are being developed to serve as interim techniques to capture greenhouse gas reduction benefits of strategies that currently cannot be precisely measured with current models.

Work is already underway to update and improve the models and other tools, with funding assistance from the State. By the time ARB updates the targets in the next cycle of target setting, there will be much improved data, models, and other tools to allow ARB to consider more precise goals, and are expected to enable MPOs to demonstrate the ability to achieve even higher targets. As a result of the strong focus on improving model sensitivity to the strategies employed for SB 375, it is likely that in the next target setting cycle the targets would increase even if strategies remained the same.

Build on Existing Regional Efforts

The proposed targets recognize the use of regional blueprint processes by many of the regions, and the extent to which regions have been able to incorporate blueprint activities into target setting scenarios. Also, the proposed targets reflect the implementation of locally-generated strategies, policies, and judgments about deployment levels for many land use, transportation, housing, and pricing strategies.

ARB staff recognizes the critical importance of developing a better understanding of the types and impacts of the policies and practices that would help achieve regional greenhouse gas emission reductions. To initiate this effort, ARB staff engaged a team of University of California researchers to identify the impacts of key transportation and land use policies based on existing scientific literature. Draft results are posted on ARB's website²¹ as they become available. However, this research is only the first step in a long-term process to help strengthen the technical underpinnings of SB 375. Additional research efforts are needed, and as the literature expands, it will provide a common basis for the model and tool development efforts that are being pursued by MPOs and others in both the near and long-term.

²¹ University of California research: <http://arb.ca.gov/cc/sb375/policies/policies.htm>

Staff Approach

SB 375 establishes a process, not a one-time plan, for change in the character of California's built environment. Incentives must be coupled with a regional vision and followed by local implementation over a number of planning cycles. Policy shifts occur over time through iterative planning cycles. SB 375 holds the promise of more focus on long-term planning goals and the near-term actions needed to support that vision. Setting regional targets requires a balance between goals that are high enough to motivate positive action, but not so high as to be out of reach of the regions and local governments.

Using the data provided by the MPOs over the past four months, the proposed targets would result in a reduction of greenhouse gas emissions of over three million metric tons of CO₂ per year (MMT_{CO2}/year) in 2020, and 15 MMT_{CO2}/year in 2035. When these reductions are applied to the most recent statewide 2020 emissions forecast, the emissions target for passenger vehicles in California's 2008 Climate Change Scoping Plan is met.

Given the varying degrees of available information from the MPOs, ARB staff recommends that for this first round of target setting, three different approaches be used for setting targets: one for the four largest MPOs, a second for the eight Valley MPOs, and another for the six remaining MPOs. ARB staff recommendations for the 18 MPO regions pursuant to SB 375 are described in the following sections.

PROPOSED TARGETS FOR THE FOUR LARGEST MPOs

Overview

For the four largest MPOs in the state (SCAG, MTC, SANDAG, and SACOG), ARB staff is proposing targets that match the targets recommended by the MPOs, with the exception of the 2035 target for SCAG. The MPO recommendations reflect the most recent analyses completed by MPO technical staff. ARB has followed the technical work and believes it represents the best available information.

Each of these MPOs has provided multiple target setting scenarios to support target setting. Scenarios developed and modeled by these MPOs consider a variety of land use and transportation strategies. Some scenarios include new regional strategies, going beyond those already adopted in their current RTPs. Other scenarios include increased levels of deployment that enhance strategies already included in current plans. Many of the scenarios MPOs explored include both.

With respect to land use strategies, each of the four largest MPOs developed scenarios that built on previous blueprint efforts in their regions and that go beyond what is included in their region's current plans. The SCAG region built scenarios that assume land use patterns reflecting locally-supported land use policy concepts developed through their region's Compass Blueprint efforts. Scenario work in the MTC region looks at the possibility of a more focused growth strategy that considers 120 Priority Development Areas, or PDAs, identified in their regional Blueprint program, known as Focus. SANDAG region scenarios incorporate their most recently adopted 2050 Growth Forecast, which reflects increased compact development compared to their current plan. The SACOG region provided scenarios that look at an enhanced land use allocation that is more consistent with the region's Blueprint, increase the share of small-lot single family and attached unit share of growth from the current plan, and increase the amount of development in transit priority areas compared to their current plan.

Scenarios prepared by the four largest MPOs also explored a broad range of transportation strategies, looking at scenarios that combine strategies for enhancing alternative mode choices like transit, sending market-based price signals to make the transportation system more efficient, as well as for helping to managing travel demand. Scenarios for the SCAG region incorporated transportation infrastructure improvements as well as new transportation demand, pricing, and system management strategies. The MTC region explored road-pricing options in addition to their current plan's investments in a regional high occupancy vehicle and express lane system, and completion of several alternative mode expansion projects. SANDAG region scenarios reflect new transportation demand and system efficiency measures like telecommuting and

expanded ridesharing options, as well as high-occupancy toll (HOT) lanes, and strategies to expand alternative mode options. Scenarios from the SACOG region reflect enhancements to transit, as well as system and demand management compared to the region's current plan.

Staffs of the four largest MPOs acknowledged that their scenarios represent a spectrum of potential emission reductions, and include strategy scenarios expected to be easily achievable, as well as scenarios with aggressive policies that have not been adopted by the regional governing boards. In developing recommended targets, each of the four largest MPOs engaged in a public process at local and regional levels. SCAG's scenarios were developed through an extensive public workshop process and their recommended target ranges were approved by the SCAG Board at the 2010 SCAG Regional Conference and General Assembly in May. Similarly, MTC, SANDAG, and SACOG scenarios were discussed in a number of regional and local workgroup and other public forums. MTC's Board approved target recommendations for submittal to ARB at their July 28 Board meeting. SANDAG's Board approved target recommendations at its July 23 meeting. SACOG's transportation policy committee met on August 4 and recommended that SACOG staff's target recommendations be discussed and adopted at its next Board meeting on August 19.

Southern California Association of Governments (SCAG)

For the SCAG region ARB staff proposes an 8 percent reduction target for 2020. This reduction target is based on the recommended target range provided by SCAG for 2020²² and represents what SCAG has characterized as an ambitious and achievable scenario.

Under this scenario SCAG assumes land use patterns that reflect locally-supported land use policy concepts developed through the region's Compass Blueprint efforts. This scenario also reflects gradual improvements in transportation infrastructure and policy beyond what the current transportation plan achieves, including the Los Angeles County Measure R projects, new transportation system efficiencies and increased use of alternative travel modes. In addition, it includes consideration of the effects of future High Speed Rail and high occupancy toll lanes in the region.

For 2035, SCAG recommended a target reduction range of 5 to 6 percent²³ based on modeling scenario work. Both ARB and MPO staffs have noted that this range of emission reduction is unexpectedly lower than the region's recommended reduction target for 2020. Subject to consideration by the SCAG Board, ARB staff recommends a greenhouse gas emission reduction target of 13 percent per capita or more for 2035, which is more in line with the other major

²² Adopted by the SCAG Board at its Regional Conference and General Assembly on May 5-7.

²³ Ibid.

MPOs. The proposed targets for MTC, SANDAG, and SACOG range from a reduction of 13 to 16 percent.

ARB staff expects the SCAG Board will discuss this proposed target at their next meeting on September 2, 2010, prior to ARB action.

Table 1
Proposed SCAG Targets for 2020 and 2035
(Per capita GHG reduction from passenger vehicles relative to 2005)

	2020	2035
SCAG	8%	13%*

* Subject to consideration by the SCAG Board

Metropolitan Transportation Commission (MTC)

For the MTC Bay Area region ARB staff proposes a 7 percent reduction target for 2020 and a 15 percent reduction target for 2035. This reduction target is based on the recommended targets adopted by MTC for 2020 and 2035²⁴, and reflects MTC staff analysis of different land use and pricing scenarios.

As part of its scenario work, MTC looked at the potential emission reductions associated with separate land use, pricing, and maintenance policy options, as well as the potential reductions of combining these policies. After reviewing MTC staff’s initial scenario work, MTC’s policy committee asked staff to do additional work on the region’s 2035 scenarios, specifically looking at the impacts of 12 and 15 percent regional targets for 2035. MTC staff revisited the initial scenarios with the use of off-model tools and scaling methods and brought the results of the additional sensitivity analyses to the MTC Board at its July 28, 2010 meeting. Based on this additional information, the Board adopted recommended targets for their region that are consistent with the potential reduction range modeled by MTC staff for 2020, but exceed the reduction range that was modeled for 2035.

MTC concludes that their recommended targets might be achieved through a more focused growth strategy and greater reliance on road pricing and other strategies than is reflected in their current plan. With regards to land use, MTC’s current plan builds on its regional Blueprint program (known as Focus). In cooperation with local agencies, this effort identified about 120 Priority Development Areas, or PDAs, to focus the region’s future growth. For transportation, the region’s current plan reflects investments of more than 80 percent of revenues into maintaining and operating the region’s existing transportation network and includes, build out of the region’s high occupancy vehicle (HOV) lane system and conversion to express high occupancy toll lanes;

²⁴ Adopted by the MTC Board at its July 28, 2010, meeting.

completion of several transit expansion projects, ferry system expansion; region wide ramp metering; and completion of a regional bicycle network.

**Table 2
Proposed MTC Targets for 2020 and 2035
(Per capita GHG reduction from passenger vehicles relative to 2005)**

	2020	2035
MTC	7%	15%

San Diego Council of Governments (SANDAG)

For the SANDAG region ARB staff proposes a 7 percent reduction target for 2020 and a 13 percent reduction target for 2035. This reduction target is based on SANDAG’s recommended targets for 2020 and 2035²⁵.

SANDAG’s 2020 and 2035 target recommendations represent the modeled results of a revised hybrid scenario. Under this scenario SANDAG assumes a land use allocation that is consistent with its recently adopted 2050 growth forecast, which is described as including significant increases in compact development compared to the previous growth forecast used in the current RTP.

This scenario also reflects new transportation demand and system efficiency measures including: congestion relief at identified traffic bottlenecks; telecommuting; expanding ridesharing options including enhancements to the vanpool programs; and implementing Safe Routes to Schools strategies. In addition, this scenario includes expansion of the regional transit system improvements, bicycle/pedestrian systems development, as well as the effect of adding additional high-occupancy toll lanes to the regional transportation system.

As discussed above, SANDAG’s recommended targets are based on modeled results of a revised hybrid scenario, which include a number of strategies beyond what is adopted in their current plan. However, as a result of recent updates to their modeled scenario, SANDAG’s recommended emission reduction targets are not necessarily comparable to prior modeled results of their adopted plan.

**Table 3
Proposed SANDAG Targets for 2020 and 2035
(Per capita GHG reduction from passenger vehicles relative to 2005)**

	2020	2035
SANDAG	7%	13%

²⁵ Adopted by the SANDAG Board at its July 23, 2010, meeting.

Sacramento Area Council of Governments (SACOG)

For the SACOG region, ARB staff recommends a 7 percent reduction target for 2020 and a 16 percent reduction target for 2035. This reduction target is based on the results of SACOG's scenario work for its Metropolitan Transportation Plan Update, which were discussed by SACOG's transportation committee and recommended for adoption by the Board at its next meeting on August 19. SACOG's transportation committee recommended that the SACOG Board recommend targets that represent the mid-range of three scenarios the staff explored.

Under the mid-range scenario, SACOG assumes an enhanced land use allocation which is more consistent with recent market performance and Blueprint distribution of new residential housing stock in the region. The scenario assumes that 68 percent of new housing in the region will be compact, compared to 60 percent for the current plan. Growth is focused more in the urban core, smaller urban, and suburban centers of the region, with a higher proportion of new development in transit priority areas compared to their current plan.

This scenario also reflects enhancements to transit, as well as system and demand management compared to the region's current plan. Specific to transit, there would be more opportunities for high frequency bus and some streetcar service. There would be complete streets in new growth areas and some complete street "renovations" in existing areas. Street widening projects would be targeted for existing bottlenecks. All of these transportation improvements would be focused on corridors with appropriate land uses. The preliminary results of the scenario show a 14 percent decrease in VMT per capita in 2035, along with a 60 percent increase in transit trips, and a 21 percent increase in bike and walk trips.

Table 4
Proposed SACOG Targets for 2020 and 2035
(Per capita GHG reduction from passenger vehicles relative to 2005)

	2020	2035
SACOG	7%	16%

PROPOSED TARGETS FOR THE EIGHT SAN JOAQUIN VALLEY MPOs

For this first target setting cycle, ARB staff is proposing placeholder targets for the eight San Joaquin Valley MPOs. In recommending these placeholder targets, ARB staff is also recommending that the ARB Board consider a process for the MPOs in the San Joaquin Valley to improve the data, modeling, and target setting scenarios prior to the development of the Valley MPOs' first set of RTPs subject to the provisions of SB 375.

There are several reasons ARB staff is recommending this process for the San Joaquin Valley.

- The timing of the Valley's RTP cycle in relation to the SB 375 target setting cycle;
- The expected improvements in available data and modeling capability of the Valley's MPOs; and
- The pending decisions by the Valley MPOs regarding if and how they would coordinate SCS development as allowed by SB 375.

First RTP Subject to SB 375 is Four Years Away

ARB staff recognizes the substantial work effort already underway in the San Joaquin Valley that will contribute to significant improvements in the Valley MPO's data and modeling capability. The Valley MPOs were recently awarded \$2.5 million in Proposition 84 funding for data and model improvements in the Valley. In addition, ARB is providing additional funding to develop an updated travel model based on an updated statewide travel model currently under development. The new model will include updated information about interregional travel and residential and employment growth patterns – significant issues in the Valley. One of the key goals of the new model is to enhance the Valley MPOs' modeling capability and provide greater opportunity for the MPOs to coordinate their regional planning efforts. This model improvement effort will leverage the new data that will be available from the 2010 Census.

This enhanced modeling and coordination effort would build on other ongoing efforts in the Valley. The recent Valleywide Blueprint Planning Process – involving a coordinated local and regional effort – has set the bar for the future of development in the Valley. The Valleywide Blueprint envisioned a 2050 future, and left open the process that would be necessary to achieve that future. There is opportunity through the implementation of SB 375 to begin defining the path toward a more sustainable future in the Valley.

To this end, the eight Valley MPOs are exploring how best to coordinate their local and regional planning efforts to meet the Valley's transportation and growth planning needs into the future. The Valley MPOs Model Improvement Plan will study and evaluate the technical issues involved in the various options for a more coordinated approach to meeting future transportation planning needs in the

Valley. The results of this study will be important as the Valley MPOs begin to explore if, how, and to what extent they would coordinate SCS development as allowed under SB 375. The results of this study are expected to be available in 2011.

In order to coordinate Valleywide transportation and land use issues, the Valley MPOs convened a Policy Council, consisting of two elected officials and one alternate appointed from each of the regional planning agencies' policy boards in the San Joaquin Valley. The Policy Council provides guidance to the MPOs on common interregional policy issues.

Individually, there are numerous efforts that are underway in the Valley that would enhance the Valley MPOs' ability to understand, plan for, and reduce the greenhouse gas emissions from passenger travel within the Valley. The following list is a sample of some of the local actions that could help reduce greenhouse gas emissions from passenger vehicle travel in the Valley:

Fresno County: 2006 Measure "C" - The Measure "C" extension plan provides approximately 25 percent of the expected measure funds to public transit services and other transit-related activities and programs. It also directs 3.5 percent or \$59.8 million of the measure funds towards Transit Oriented Infrastructure for Infill Development (TOD) and the School Bus Replacement Program. About \$53 million was allocated to the pedestrian and trails program, and \$15 million to the bicycle program.

Fresno County: Public Transportation Infrastructure Study (PTIS) - Fresno County Measure "C" allocates about \$5.1 million for the PTIS and transit consolidation. The PTIS evaluates mobility opportunities and needs, and identifies strategies for public transit and transit infrastructure development. The study will identify potential high-capacity transit corridors in Fresno County and also explore transit-supportive alternative land uses.

Fresno County: Bus Rapid Transit - Bus Rapid Transit (BRT) Master Plan was completed in 2008. The recommended Blackstone/Ventura BRT corridor was adopted by the City of Fresno City Council, and is scheduled to be in operation in 2012.

Fresno County: Urban Form Element – This element of the City of Fresno's General Plan identifies locations for activity centers, linear intensity corridors including a mid- and high-rise corridor, infill development and redevelopment.

Fresno County: City of Fresno Bike Master Plan - The City of Fresno has released its 2010 Bicycle, Pedestrian and Trail Master Plan (Draft) for

public review. This comprehensive and progressive plan strives to transform Fresno into a more bike friendly community.

Kern County: Integrated Land-Use/Transportation Model Development – Kern COG is exploring the use of a computer land-use model with a feedback loop to the transportation model to inform local decision makers on where to focus future growth, given the regions existing and/or expected infrastructure. The land-use model could be set up to optimize growth areas based on several criteria, including reducing greenhouse gas emissions from the transportation network.

Kern County: Mill Creek Project – Located in downtown Bakersfield, the Mill Creek Project features a number of mixed-use, compact residential and commercial developments along a 0.75 mile long linear parkway, anchored by a planned High Speed Rail station.

Kern County: Long Range Transit Plan – Scheduled to be complete by 2012, this plan update will consider Bus Rapid Transit and other near and long-term options for enhancing Metropolitan Bakersfield's Transit system.

Kings County: Vanpool Programs – Kings County has successful vanpool programs that serve general commuters and agricultural workers. The vanpools are operated by the Kings County Area Public Transit Agency, and extend service into neighboring counties and beyond. These vanpool programs are one of Kings County's most successful strategies for reducing vehicle miles traveled and vehicle emissions.

San Joaquin County: Measure K renewal – In 2006, San Joaquin County residents voted to renew the half cent local sales tax devoted to funding transportation system improvements. Nearly one third of the estimated \$2.6 billion that would be generated would be devoted to programs to improve bus, rail and bicycle transportation opportunities for County residents.

Stanislaus County: City of Newman "Downtown Plaza Project" – StanCOG secured approximately \$2.2 million dollars to revitalize the City of Newman's downtown area to encourage bicycle/pedestrian access in the City core. The Downtown Plaza Project is estimated to be completed in time for the 2010 holiday season.

Stanislaus County: City of Turlock Mixed-use Specific Plan Development – The City of Turlock is developing specific plans that utilize mixed-use housing on in-fill projects and new residential development. These developments will include expanded bus routes and integrated neighborhood transit/retail services.

Stanislaus County: Bicycle/Pedestrian Advisory Committee –The StanCOG Bicycle/Pedestrian Advisory Committee is working with Stanislaus County to enhance bicycle routes and signage to improve safety for cyclists throughout the region.

On a Valleywide basis, the San Joaquin Valley Air Pollution Control District is implementing Rule 9410 (Employer Based Trip Reduction) and Rule 9510 (Indirect Source Review), which will assist with the reduction of vehicle travel and greenhouse gas emissions in the region.

A significant pending issue is whether the SJV MPOs will develop their SCSs separately or if two or more MPOs would coordinate with each other as allowed by statute. ARB staff recognizes that this is a significant technical and policy decision faced by the Valley MPOs, which will take additional time to resolve. Ultimately, the Valley MPOs' decision on how they will coordinate to meet their SB 375 obligations impacts ARB staff recommendations for the Valley MPO targets. ARB staff recognizes that the MPOs' decision is critical for the 2014 RTP development, and is not expected to be resolved this far in advance.

ARB Staff Recommended SB 375 Target Setting Process in the San Joaquin Valley

Given the amount of change anticipated over the next two years in data, modeling, and decisions to be made in the Valley, ARB staff is recommending a process that:

1. Establishes placeholder targets in September 2010;
2. Reports on expected model improvements in 2012; and
3. Establishes provisional targets in 2012, if appropriate, which would be formally considered by the ARB in 2014.

The process for the San Joaquin Valley described in this section is based on the premise that, particularly for 2035, the existing modeling capability in the Valley is not appropriately reflecting the impact of sustainable communities strategies that are already being implemented, or the impact of implementing future strategies in the Valley. As a result, ARB staff is proposing placeholder 2010 targets with the expectation that these targets would be replaced to incorporate expected model improvements and further scenario development efforts.

For the San Joaquin Valley MPOs, ARB staff proposes a Valleywide placeholder reduction target of 5 percent for 2020 and 10 percent for 2035. The proposed 2020 target lies within the range of potential reductions submitted by the MPOs of 1 to 6 percent in 2020. The proposed target for 2035 is well beyond the 2035 scenario estimates provided by the Valley MPOs, and reflects the significant technical improvements and policy discussions that are needed to impact this rapidly growing region. ARB staff is proposing this placeholder target with a

commitment to revisit the target in 2012 prior to development of the first sustainable communities strategies. While a 10 percent reduction appears very challenging when compared to the results of current modeling efforts, it is consistent in concept with the target recommendations for the four major MPOs, where the 2035 target is substantially higher than the 2020 target. ARB staff expects that with anticipated modeling improvements and more focus on long-term planning issues, the 2012 review will incorporate significant new information critical to target setting for the San Joaquin Valley.

Table 5
Proposed San Joaquin Valley MPOs Targets for 2020 and 2035
(Per capita GHG reduction from passenger vehicles relative to 2005)

	2020	2035
San Joaquin Valley MPOs	5%	10%

The 2012 informational update would provide a public forum for discussing the progress the Valley MPOs have made in coordinating their planning efforts, improving the available data, building their modeling capability, addressing residential and employment growth patterns, and exploring alternative target setting scenarios. As part of the 2012 update, ARB staff expects that the Valley MPOs would provide an update on their efforts, and, if available, provide regional target recommendations based on the new modeling and scenario information.

The 2012 informational update should include a report by the Valley MPOs on how they intend to address the statutory option to work together, i.e. will the Valley MPOs work together to develop one or more multi-county sustainable communities strategies? This is a key question to be answered since the proposed 2010 placeholder targets are Valleywide, and consider a wide range of projected greenhouse gas emissions estimates provided by each of the Valley MPOs. If the Valley MPOs ultimately decide to develop individual or multi-county SCSs that cover smaller portions of the eight county region, that would need to be considered when revisiting the targets.

Under the process ARB staff is proposing, new provisional targets would be identified for use in developing the Valley’s 2014 RTPs unless the 2012 review indicates that the placeholder targets are appropriate. The provisional targets would be formally adopted in 2014.

The provisional targets would incorporate new information identified in the 2012 update. With the provisional targets as a starting point, ARB staff would continue to work closely with the Valley MPOs to coordinate their RTP development efforts in parallel with ARB’s overall reassessment of targets in 2014. This way as the Valley MPOs begin development of 2014 RTPs, they would have the benefit of provisional targets to guide the process. At the same time, ARB would have the

benefit of information developed in support of the 2014 RTP to inform a revisit of the targets in 2014.

ARB staff believes this is the appropriate approach for the San Joaquin Valley target setting process in this first cycle because it would:

1. Provide the Valley with the necessary time to determine how they will work together to address the SB 375 targets (Valleywide, MPO-by-MPO, or several groupings within the Valley);
2. Leverage the significant modeling and data improvements that will occur over the next two years that have the potential to dramatically improve the MPOs' ability to model the impacts of sustainable communities strategies;
3. Recognize the fact the new RTPs have just been adopted by the Valley MPOs and that the Valley planning cycle is out of sync with the timing of the SB 375 target setting; and
4. Maintain the focus on improving the integrated planning process and provide an opportunity to re-assess the Valley prior to the Valley MPOs starting development of 2014 RTPs.

PROPOSED TARGETS FOR THE REMAINING SIX MPOs

The remaining six MPOs in the state include: the Association of Monterey Bay Area Governments, Butte County Association of Governments, San Luis Obispo County Council of Governments, Santa Barbara County Association of Governments, Shasta County Regional Transportation Planning Agency, and the Tahoe Metropolitan Planning Organization. Collectively, they represent about 5 percent of the State's current population, vehicle miles of travel, and passenger vehicle greenhouse gas emissions. This is not expected to change by 2020 or 2035.²⁶

For this first target setting cycle under SB 375, ARB staff is proposing targets for these regions that reflect each MPOs' current projections for 2020 and 2035, as indicated below. The initial priority has been to address the largest and fastest growing regions that represent 95 percent of California's emissions from passenger vehicles. Between now and 2014 when the targets are revisited, ARB staff will work on further evaluation of these MPOs.

To provide some general context, the development patterns within these regions can be characterized as semi-rural towns and small cities. While a few of these MPOs are expected to feel growth pressures due to their proximity to larger urban areas, overall development is anticipated to be relatively slow over the next 25 years. The travel patterns within these areas are also unique, particularly for those that are recreation and vacation destinations.

Most of the MPOs are currently engaged in blueprint-type planning efforts, including the Tahoe, Shasta²⁷, Butte, Monterey Bay²⁸, and San Luis Obispo²⁹ regions. Santa Barbara is partnering with San Luis Obispo in these types of activities.

Tahoe Regional Planning Agency (TMPO)

The Tahoe Basin is the smallest of the California MPOs with a population today of just over 40,000, a decrease of almost 10 percent since 2000. Between now and 2035, population is projected to grow at an average rate of roughly one percent per year. Over one-third of the current housing in the Tahoe area is used seasonally, resulting in dramatic fluctuations in population and travel on weekends and holidays. The Tahoe Basin is also unique in its high proportion of federal and State controlled lands, representing over 86 percent of its total land area.

²⁶ Calculated using [State of California, Department of Finance, Population Projections for California and Its Counties 2000-2050, Sacramento, California, July 2007](#), and MPO provided base data.

²⁷ Shasta Forward, <http://www.shastaforward.com/home.php>

²⁸ Envisioning the Monterey Bay Area, <http://www.ambag.org/programs/blueprint/blueprint.html>

²⁹ Community 2050, <http://www.slocog.org/cm/Community2050/Home.html>

The Tahoe region is currently undergoing an update of its Regional Plan for adoption by 2011. It includes elements that address transportation and air quality, and a regional housing needs assessment. Among the four regional growth alternatives under consideration for the Plan, MPO staff prefers the one that best addresses the basin's land use issues as it approaches build-out in the coming decades. It does this by directing land use and growth to appropriate areas where infrastructure capacity and facilities exist, and focusing concentration of additional development and redevelopment in transect districts designated as town centers, tourist centers, and neighborhood centers. Not counting the anticipated benefits of an updated Regional Plan, the Tahoe region projects a 7 percent reduction in per capita greenhouse gas emission in 2020, and a 6 percent increase in 2035 under their current planning efforts.

Shasta County Regional Transportation Planning Agency (SCRTPA)

Shasta County represents the second smallest MPO in California, with a current population of just over 190,000 people increasing to a projected 245,000 people in 2030 at an average growth rate of about 2 percent per year. It is one of the least densely populated regions in the State with 47 people per square mile; significantly below the 217 people per square mile average for California as a whole. The location of development in the region is predominately influenced by topography and access to transportation, with the majority of the population (about 85 percent) living in cities along the Interstate 5 corridor, including the City of Redding which is the largest city in the County.

SCRTPA recently undertook a Blueprint planning process resulting in the release earlier this year of "Shasta*FORWARD>>*". This plan was developed with input from residents and details the community's vision to accommodate the region's population while also preserving the natural landscape and agricultural lands, building economic sustainability, and improving mobility options by 2050. The SCRTPA will use information gathered for the regional blueprint plan to help inform preparation of a sustainable communities strategy for the 2015 update of their RTP. Of the six MPOs, the SCRTPA was the only MPO that provided ARB with Board-adopted recommended targets – a range of a 0 percent change to an 8 percent increase in per capita greenhouse gas emissions for both 2020 and 2035. Based on this range, ARB staff is proposing a target of a 0 percent change for both 2020 and 2035.

Butte County Association of Governments (BCAG)

Butte County includes five incorporated cities, ranging from small farming communities to moderately sized regional centers. Its current population is approximately 230,000 people, with an anticipated increase to approximately 345,000 in 2035 at an average annual growth rate of two percent. Because of the increasing growth pressures in Butte County, the MPO is undergoing a multi-

faceted planning process to develop a more informed land use and transportation decision-making process. This includes the initiation of a several related efforts, including development of Regional Guiding Principles that reflect goals and values for growth from a regional perspective and scale for integration into each jurisdiction's General Plan and the BCAG Regional Transportation Plan. These efforts seek to help focus future urban development within already urbanized areas and spheres of influence served by the transportation infrastructure in the existing RTP, Regional Road Network and fixed route transit corridors. Current projections by BCAG for both 2020 and 2035 reflect a 1 percent per capita increase. However, informational scenarios provided by BCAG during the target setting process do reflect the potential for this region to meet a 0 percent increase in 2020, and achieve a 1 percent reduction in per capita greenhouse gases in 2035.

San Luis Obispo Council of Governments (SLOCOG)

San Luis Obispo County has a current population of about 270,000 people. The average annual growth rate was roughly 1.5 percent over the past ten years and is expected to remain near that level into the future, with about 330,000 inhabitants in 2035. Most residents live in the North County area, which is expected to absorb almost half of all new residents. Current home ownership levels are well below the State and national averages (representing the fifth least-affordable housing market in the nation in 2004) as a result of the disparity between local wages and housing costs among County residents. At the same time, there is a shift in housing types that reflects the region's emphasis on smart growth, providing better housing availability, and shifting housing preferences as the region's population ages.

In 2008, SLOCOG adopted the Community 2050 plan. The plan's goal is to build a regional vision and develop performance measures to, among other things, foster a more efficient regional land use pattern, and improve mobility through a combination of strategies and investments. SLOCOG plans to build on the work in the Community 2050 plan with blueprint grant funds. The region's most recent projections for 2020 and 2035 reflect an 8 percent reduction in per capita emissions in both years. However, informational scenarios provided by SLOCOG during the target setting process do reflect the potential to achieve a 10 percent reduction in per capita greenhouse gases in 2035.

Santa Barbara County Association of Governments (SBCAG)

Santa Barbara County has a current population of about 435,000 people, making it the second largest region in this group of six MPOs. By 2035, its population will increase to about 485,000, at an average growth rate of less than one percent per year. While the communities in the South and the North County areas of the region are integrated economically, culturally, and environmentally, the region contains several noticeable jobs-housing imbalances between the

South and the North County, between Ventura County and the South County portions of Santa Barbara, and an emerging imbalance between the North County area and Southern San Luis Obispo County. Due to the transportation connections between San Luis Obispo County and Santa Barbara County, SBCAG and SLOCOG jointly applied for and received State Blueprint Grant Funds for a coordinated blueprint. The region's current projections result in a 6 percent increase in per capita emissions in 2020 and 4 percent increase in 2035, making the jobs-housing imbalance an issue for this region going forward.

Association of Monterey Bay Area Governments (AMBAG)

The Monterey Bay Area is the largest of the six remaining MPOs in terms of population, with about 765,000 people. The region is expected to have an average annual growth rate of less than one percent between 2005 and 2035 that decreases over this time. The region's demographics are shifting as well, with increasing proportions of youth and elderly. This results in potential transportation mobility and accessibility issues for non-driving populations. Housing affordability and choice also remain an important consideration for the region, which projects a 13 percent increase in per capita emissions in 2020 and a 14 percent increase in 2035.

Informational scenarios provided by AMBAG during the target setting process have begun to reflect the region's potential to achieve less of an increase in per capita greenhouse gases in both 2020 and 2035. AMBAG is currently undergoing a regional blueprint process, Envisioning the Monterey Bay Area, with the goal of developing a unified vision and preferred land use pattern that maximizes existing land and transportation infrastructure for future growth accommodation. Once adopted, the Blueprint is intended to serve as the foundation for region's SB 375 implementation efforts.

ARB staff anticipates that, over the next several years, the experience and tools developed in other regions will contribute significantly to ARB's efforts to update the targets in these regions. ARB staff expects that future emission reduction targets for this group of MPOs will be higher as a result of better tools to reflect each region's current and projected future land development and transportation infrastructure strategies.

IV. STAFF RECOMMENDATION

ARB staff recommends that the Board adopt the proposed targets presented in this report, with the provision that ARB staff provide an informational update to the Board in 2012. The update would include the following:

- Discussion of the progress the San Joaquin Valley MPOs have made in coordinating planning efforts, improving the available data, building modeling capability to more accurately estimate reductions in greenhouse gases, and exploring alternative target setting scenarios.
- Consideration of new provisional targets for the San Joaquin Valley if appropriate.
- Discussion of whether or not a 2014 target recalibration process will be needed to reflect new data, modeling improvements, or other information.

Appendix A

MPO RTP Update Schedule

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**Status of Regional Transportation Plans (RTPs)
July 2010**

[http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/index_files/MPO_StatusChart%20 July2010.pdf](http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/index_files/MPO_StatusChart%20July2010.pdf)

MPO	Date of Current RTP	Estimated Date of Next Adopted RTP
AMBAG	6/9/10	June 2012
Butte CAG	12/11/08	December 2012
Fresno (COFCG)	7/29/10	July 2014
Kern COG	7/15/10	July 2014
Kings CAG	7/28/10	July 2014
Madera CTC	7/21/10	July 2014
Merced CAG	7/15/10	July 2014
MTC	4/22/09	April 2013
San Joaquin COG	7/22/10	July 2014
San Luis Obispo	4/06/05	December 2010
SANDAG	11/30/07	July 2011
SACOG	3/20/08	December 2011
Santa Barbara	10/15/09	March 2013
SCAG	5/8/08	May 2012
Shasta CRTPA	7/27/10	July 2015
Stanislaus COG	7/21/10	July 2014
Tahoe RPA	8/27/08	October 2012
Tulare CAG	7/19/10	July 2014

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Appendix B

Sample List of SB 375 Policy Categories and Policies

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Sample List of SB 375 Policies and Practices to Reduce Passenger Vehicle Greenhouse Gas Emissions

Land Use Policies

Density

- Increase infill and development in areas with existing infrastructure
- Increase opportunities for redevelopment/reuse (e.g., brownfields)
- Increase residential/commercial density near transit (e.g., transit oriented developments)
- Increase use of compact building design in new and existing developments

Diversity

- Increase mixed use development (e.g., residential and commercial uses in infill, reuse/redevelopment or greenfield projects)
- Increase transit oriented development

Design

- Improve connectivity of streets and pedestrian network (e.g., through streets)
- Improve neighborhood and site design (e.g., traffic calming, beautification)

Distance to Transit

- Increase residential/commercial density near transit (e.g., transit oriented development)
- Make developments transit ready

Housing

- Increase local housing for local workforce (e.g., jobs-housing fit, jobs-housing balance)
- Integrate affordable and market rate housing
- Improve accessibility of housing to transit

Open Space and Agricultural Land Conservation

- Reduce pressure on greenfields by directing growth to existing developed areas
- Adopt mechanisms to protect key natural resources

Location of Development

- Locate major regional activity centers near existing development (e.g., “destinations”)
- Locate schools in neighborhoods that house the student population or maximize access by alternate modes
- Implement other location-related policies

Incentives

- Provide financial incentives (e.g., grants, tax credits) for non-transportation investments like housing, parks, and storm water management
- Provide regulatory relief (e.g., expedited permit processing)
- Provide recognition programs

Transportation Policies

Transit Facilities and Service

- Expand transit network
- Improve transit facilities (e.g., safety)
- Reduce passenger travel time (e.g., more frequent headways)
- Adopt competitive fare structure

Pedestrian Infrastructure and Environment

- Improve pedestrian facilities and infrastructure
- Improve pedestrian environment (e.g., beautification, access)
- Implement “safe routes to schools” program

Bike Infrastructure and Environment

- Improve bicycle facilities and infrastructure
- Improve cyclist environment (e.g., safety, access)
- Implement “safe routes to schools” program

Interconnectivity Among Alternative Modes

- Improve linkages between modes of travel
- Use Intelligent Transportation System technologies (e.g., “smart card”)

Road Quality and Service

- Rehabilitate and maintain pavement
- Use transportation system management (e.g., congestion management)

Parking Management

- Implement effective pricing
- Alter parking requirements and types of supply (e.g., maximum parking, shared parking)
- Improve circulation efficiency through information (e.g., signage)

Employer-Based Commute Trip Reduction

- Encourage telecommuting and flexible/alternative work schedules
- Implement and coordinate use of employee vehicle sharing programs and alternative modes (e.g., incentives for carpool, bike, transit, vanpool use)
- Improve employer parking management (e.g., employee parking “cash out”, unbundling parking cost from property cost)

Other Trip Reduction (Commute and Other)

- Implement vehicle sharing programs (e.g., car sharing, bike sharing, park and ride lots)
- Provide local shuttles

Pricing Policies

Parking Pricing

- Implement metered pricing
- Implement parking “cash-out” program

Road User Pricing

- Implement congestion pricing
- Implement High Occupancy Toll (HOT) lanes
- Implement area or cordon pricing
- Implement distance-based (VMT) pricing

Fuel Tax

Additional measures or policies for transportation system management and demand management include:

System Development

- Eliminate or reduce highway and arterial projects that result in additional “general purpose” lane miles
- Expand regional park and ride facilities
- Implement regional bicycle facilities and infrastructure
- Expand high occupancy toll (HOT lanes) system
- Implement traffic signal coordination
- Queue jumps/Bus priority at intersections
- Provide real time transit information
- Speed limit reductions to 55 MPH
- Ramp metering
- Incident management system
- Freeway travelers information system
- Anti-idling traffic codes for commercial vehicles
- Enhance vehicle inspection and maintenance programs
- Operation improvements to relieve bottlenecks

Demand Management

- Eco driver education
- Student carpool programs
- Staggered school class schedules
- On-site child care facilities
- Pay-as-you-drive insurance

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Appendix C

MPO Data and Scenario Submittals

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Metropolitan Planning Organization Scenario and Data Submittals:

View the most updated submittals at:

<http://www.arb.ca.gov/cc/sb375/data/data.htm>

Joint MPO Submissions:

- SB 375 Base Year Data (2005, 2020, 2035) (received 4/26/10)
 - AMBAG (received 5/5/10)
 - SACOG (received 6/17/10)
- Preliminary Report on Target Setting from MTC, SACOG, SANDAG and SCAG (received 5/19/10)
- Midsize MPO Institutional Concerns (received 5/18/10)
- SJV MPOs Joint Data Submittal
 - SJV MPO Director Updated Step 1 Documentation (received 5/24/10)
 - SJV MPO Step 1 Data Submittal (Excel format) (received 5/24/10)
 - SJV MPO Step 1 Data Submittal - VMT by county (received 5/24/10)
 - SJCOG Step 1 Data Submittal Update - VMT by county (received 5/24/10)
 - SJV MPO Interregional Travel (received 5/24/10)
 - Letter to ARB Regarding Targets (received 8/09/10)

Individual MPO Submissions:

Association of Monterey Bay Area Governments

- Response to ARB Questions and Technical Memo on GHG Targets (received 8/3/10)

Butte County Association of Governments

- Draft Targets (received 4/28/10)
- Draft Targets (no Pavley) (received 5/24/10)
- Responses to ARB Questions (received 6/4/10)
- Alternative Scenario Summary (received 7/19/10)
 - Alternative Scenario Summary (received 7/9/10)

Council of Fresno County Governments

- Proposed target submittal (received 5/19/10)
- GHG Base Estimates (received 04/19/10)
- Scenario VMT/Capita (revised) (received 6/4/10)
 - Scenario Bundles (received 04/19/10)
- Responses to ARB Questions (received 6/17/10)
- Alternative Scenario Summary (received 7/14/10)

Kern Council of Governments

- Proposed target submittal (received 4/23/10)
- Responses to ARB Questions (received 6/7/10)
- Alternative Scenario Summary (received 7/14/10)
- Target Setting Status Report (received 7/19/10)

Kings County Association of Governments

- Draft Proposed Target (received 5/20/10)

Madera County Transportation Commission

- Proposed target submittal (received 7/01/10)

Merced County Association of Governments

- See joint submittal

Metropolitan Transportation Commission / Association of Bay Area Governments

- Preliminary Report on Target Setting from MTC, SACOG, SANDAG and SCAG (received 5/19/10)
- Responses to ARB Questions (received 6/8/10)
- Alternative Scenario Summary (received 7/27/10)
- Email Clarifying Baseline Data (received 08/05/10)

Sacramento Area Council of Governments

- Preliminary Report on Target Setting from MTC, SACOG, SANDAG and SCAG (received 5/19/10)
- RTAC Scenarios (received 7/12/10)
 - RTAC Scenarios (received 6/17/10)
 - Scenarios for RTAC (received 5/19/10)
- Comments on Report to RTAC (received 6/17/10)
- Land-use Deployment Matrix (received 6/17/10)
- Responses to ARB Questions (received 6/23/10)
 - Attachment to Responses (received 6/23/10)
- Draft Principles on Target Setting (received 7/14/10)
- Alternative Scenarios for Transportation Planning (received 7/14/10)
- Transportation Committee Proposed GHG Targets (received 8/5/10)
- Email Clarifying Projections Data (received 08/06/10)

San Diego Association of Governments

- Preliminary Report on Target Setting from MTC, SACOG, SANDAG and SCAG (received 5/19/10)
- Responses to ARB Questions (received 6/7/10)
- SANDAG Proposed GHG Targets (received 7/27/10)
 - SANDAG Proposed GHG Targets (received 7/19/10)
- Additional Information for Proposed Targets (received 7/29/10)
- Response to 6/23/10 Climate Plan Comments (received 8/6/10)

San Joaquin Council of Governments

- Scenario Analysis (received 6/14/10)
- Responses to ARB Questions (received 6/14/10)
- SJCOG Staff Report (received 6/23/10)

San Luis Obispo Council of Governments

- Target setting Report (received 5/21/10)
- Responses to ARB Questions (received 6/09/10)
- GHG Emission Simulation Results (received 6/23/10)

Santa Barbara County Association of Governments

- Scenarios for Target Setting (received 5/27/10)
- Letter with Scenario Submittal (received 5/27/10)
- Responses to ARB Questions (received 6/2/10)
- Alternative Scenario Summary (received 6/21/10)

Shasta County Regional Transportation Planning Agency

- Responses to ARB Questions (received 6/4/10)
- Alternative Scenario Summary (received 7/14/10)

Southern California Association of Governments

- Preliminary Report on Target Setting from MTC, SACOG, SANDAG and SCAG (received 5/19/10)
- Responses to ARB Questions (received 6/08/10)
 - Alternative Scenario Summary (received 6/08/10)
 - 2008 RTP, Amendment # 3 (received 6/08/10)
- Response to Comments and Description of GHG Measures (received 8/4/10)

Stanislaus Council of Governments

- See joint submittal

Tahoe Metropolitan Planning Organization

- Responses to ARB Questions (received 6/4/10)
- Alternative Scenarios Summary (received 7/14/10)
 - Travel Output (received 7/14/10)
- Description of GHG Targets (received 7/14/10)

Tulare County Association of Governments

- See joint submittal

Appendix D

References

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REFERENCES

Association of Monterey Bay Area Governments, Envisioning the Monterey Bay Area, <http://www.ambag.org/programs/blueprint/blueprint.html>

California Air Pollution Control Officers Association, Model Policies for GHGs in General Plans, June 2009, <http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-ModelPolicies-6-12-09-915am.pdf>

California Attorney General's Office, Sustainability and General Plans: Examples of Policies to Address Climate Change, rev. January 22, 2010, http://ag.ca.gov/globalwarming/pdf/GP_policies.pdf

Center for Continuing Study of the California Economy, California County Projections, 2009/10 edition, http://www.ccsce.com/Cal_County_Projections.php

Deaken, Elizabeth, Economic Factors Influencing the Magnitude of Change in the Land Use and Transportation Sectors, Presentation to RTAC, April 7, 2009, <http://www.arb.ca.gov/cc/sb375/rtac/meetings/040709/deakinpresentation.pdf>

Economic and Technology Advancement Committee, Recommendations of the Economic and Technology Advancement Committee (ETAAC) Final Report: Technologies and Policies to Consider for Reducing Greenhouse Gas Emissions in California, <http://www.arb.ca.gov/cc/etaac/ETAACFinalReport2-11-08.pdf>

Government Code 65080(b)(4)(C)

Government Code 65584.01(b)

Governor's Office of Planning and Research, Cities and Counties Addressing Climate Change, Sacramento, rev. April 5, 2010, http://opr.ca.gov/ceqa/pdfs/City_and_County_Plans_Addressing_Climate_Change.pdf

Institute for Local Government, California Climate Action Network Best Practices Framework (version 5.0), May 9, 2008, <http://www.csac.counties.org/images/users/1/BestPracticesFramework%20v5%00%20May%2014.pdf>

Mcllwain, John. Housing in America: the Next Decade. Urban Land Institute, 2010, <http://www.uli.org/~media/Documents/ResearchAndPublications/Fellows/Mcllwain/HousinginAmerica.ashx>

Myers, Dowell and Ryu, SungHo. "Aging Baby Boomers and the Generational Housing Bubble: Foresight and Mitigation of an Epic Transition." *Journal of the American Planning Association* (2008): 74: 1, 17-33,
http://www.scag.ca.gov/housing/pdfs/trends/AgingBabyBoomers_GHB.pdf

Regional Targets Advisory Committee, Recommendations of the Regional Targets Advisory Committee (RTAC) Pursuant to Senate Bill 375: A Report to the California Air Resources Board, September 29, 2010,
<http://www.arb.ca.gov/cc/sb375/rtac/report/092909/finalreport.pdf>

Sacramento Metropolitan Air Quality Management District, Working Draft: List of Transportation Emission Reduction Measures to be included in the PR2301 Guidance Document,
http://www.aqmd.gov/rules/proposed/2301/pr2301_draft_trans_meas_20090224.pdf

San Luis Obispo Council of Governments, Community 2050,
<http://www.slocog.org/cm/Community2050/Home.html>

Shasta County Regional Transportation Planning Agency, Shasta Forward,
<http://www.shastafoward.com/home.php>

State of California, Air Resources Board, Proposed SB 375 Greenhouse Gas Targets: Documentation of the Resulting Emission Reductions based on MPO Data, <http://www.arb.ca.gov/cc/sb375/sb375.htm>

State of California, California Energy Commission, Energy Aware Guide,
http://www.energy.ca.gov/energy_aware_guide/index.html

State of California, Department of Finance, Population Projections for California and Its Counties 2000-2050, by Age, Gender and Race/Ethnicity, Sacramento, California, July 2007,
<http://www.dof.ca.gov/research/demographic/reports/projections/p-3/>

State of California, Department of Finance, Population Projections by Race/Ethnicity for California and Its Counties 2000-2050, Sacramento, California, July 2007, <http://www.dof.ca.gov/research/demographic/reports/projections/p-1/>

State of California, Department of Finance, Review of Department of Finance's Long-Term 2007 Population Projects Memo:
<http://www.arb.ca.gov/cc/sb375/data/data.htm>.

State of California, Department of Housing and Community Development, Housing Element Policies and Programs Addressing Climate Change, February 2009,
http://www.hcd.ca.gov/hpd/HE_PoliciesProgramsAddressingClimateChange.pdf

State of California, Department of Transportation, Smart Mobility Framework,
<http://www.dot.ca.gov/hq/tpp/offices/ocp/smf.html>

US Census Bureau, <http://www.census.gov/population/www/socdemo/hh-fam.html#ht>, Accessed on January 2009.

US Environmental Protection Agency, Getting to Smart Growth II: 100 More Policies for Implementation, 2003, <http://www.smartgrowth.org/pdf/gettosg2.pdf>

US Environmental Protection Agency, Getting to Smart Growth: 100 Policies for Implementation, 2002, <http://www.smartgrowth.org/pdf/gettosg.pdf>

US Green Building Council, LEED for Neighborhood Development Pilot Version Rating System (LEED-ND),
<http://www.usgbc.org/ShowFile.aspx?DocumentID=2845>