



## California MPOs Reveal Results of SB375 Soul-Searching

In May, California’s Metropolitan Planning Organizations revealed their self-assessments of their ability to curb climate change. MPOs representing over 90% of the state’s population went on record with estimates of their “ambitious and achievable” 25-year reductions in greenhouse gas emissions.

The announcements followed more than seven months of public outreach and stakeholder discussions, scenario testing and modeling representing the “bottom up process” within the regions to assess their GHG reduction potential. The process was prescribed by the State’s SB375 Regional Targets Advisory Committee (RTAC) in its September 2009 report California Air Resources Board. The resulting MPO reports will inform the Board’s deliberations on regional GHG targets required under the California’s landmark SB375 climate legislation.

MPOs representing the state’s four major regions Los Angeles (SCAG), San Francisco (MTC), San Diego (SANDAG) and Sacramento (SACOG) submitted a unified report, though the proposed land use and transportation strategies varied from region to region (as shown in the following table), as did each regions’ estimated performance levels. The MPOs and Regional Transportation Planning Agencies representing Fresno, Kern, Kings, San Joaquin, San Luis Obispo, Monterey, Santa Cruz, San Benito, Butte, and Shasta counties also presented target-setting proposals.

| SB 375 Scenario Assumptions from Four Major MPOs   |  |      |   |      |
|--|--|------|---|------|
|  | “Most Ambitious Scenario”  |      | “Ambitious & Achievable Scenario”   |      |
|  | 2020   | 2035 | 2020  | 2035 |
| MTC  | <u>Aggressive Alternative Scenario</u><br>Increased residential densities; fourfold increase in pricing (includes congestion/ parking/ tolls/ gas/ VMT fees or taxes)  |      | <u>RTP Project Alternative Scenario</u><br>81% of expenditures for maintenance & operations, 14% for transit expansion, 3% for road expansion, and 2% for non-motorized                               |      |
| SCAG   | <u>Scenario 5</u><br>Blueprint 2 Land Use, CHSR Phase 1 (2020) & Phase 2 (2035), TDM/TSM, roadway/ bike/ ped expansion, 20% decrease in transit headways, HOT lanes, VMT fee (2035); congestion and parking pricing not included |      | <u>Scenario 3</u><br>Blueprint 1 Land Use, CHSR Phase 1 (2020) and Phase 2 (2035), TDM, TSM, roadway/bike/ped expansion, RTP amended transit investments, congestion/parking/VMT pricing not included |      |
| SANDAG   | <u>Hybrid Scenario of A/B/C</u><br>Still under development, but will combine TDM, system efficiency, system expansion, and pricing (congestion, parking, gas & VMT)  |      | TBD*  |      |
| SACOG  | <u>Scenario 7</u><br>Residential density ~10DU/acre, transit fare reductions & 15% service increase, TSM/TDM, pricing (congestion, parking, gas & VMT)   |      | <u>Scenario 5 &amp; 6 Blend</u><br>Higher than the current MTP, but lower than Scenario 7 because of implementation difficulties for many pricing options   |      |
| * SANDAG has not yet taken a position on what it considers “ambitious and achievable,” although information presented in the May 18 joint MPO letter to ARB refers to Scenario C, including congestion, parking, gas and VMT fees/taxes. |  |      |   |      |
| <i>Table summary of MPO submitted information prepared by Lauren Michele (Hilliard), <a href="#">Policy in Motion</a>, 26 May 2010.</i>  |  |      |   |      |



Based on information provided for the May 25 RTAC meeting, the MPO land use and transportation scenarios identified as “ambitious but achievable” would reduce GHG per capita in 2020 to between 5% and 11% below 2005 levels. Each MPO estimated that its region could double those reductions by 2020 through much more aggressive land use, demand management and transportation investment strategies that they deemed very ambitious, but not necessarily achievable.

**PROPOSED DRAFT TARGETS FOR SB375 COMPLIANCE – May 25, 2010**  
(Percent Reductions in GHG per Capita from 2005 Baseline)

|               | “Most Ambitious Scenario” |      | “Ambitious & Achievable Scenario” |                   |
|---------------|---------------------------|------|-----------------------------------|-------------------|
|               | 2020                      | 2035 | 2020                              | 2035              |
| <b>MTC</b>    | -11%                      | -12% | -5%                               | -3%               |
| <b>SCAG</b>   | -10%                      | -12% | -5%                               | -4%               |
| <b>SANDAG</b> | -18%                      | -16% | -11% <sup>1</sup>                 | -10% <sup>1</sup> |
| <b>SACOG</b>  | -8% <sup>2</sup>          | -17% | -4% <sup>3</sup>                  | -13% <sup>3</sup> |

Information provided by MPOs for May 25 meeting of SB375 Regional Targets Advisory Committee, with the following exceptions:

1. SANDAG has not yet taken a position on what it considers “ambitious and achievable”. Figures in this table represent SANDAG Scenario C as presented in the May 18 joint MPO letter to ARB.
2. The -8% figure replaces a typographical error that stated -10% in the original SACOG memo,
3. These figures have since been superseded. SACOG’s more recent modeling results are presented in the table below.

The reported scenarios and performance levels provoked a full day’s public comment and discussion by the RTAC. A summary of observations and unresolved issues from RTAC member Jerry Walters appears below.

Observations

The four major MPOs envision a shift in the real estate market with the recovering economy toward significantly reduced emphasis on large-lot single family development. All project that 60% to 80% of their regions’ growth between 2020 and 2035 will be in the form of attached units or small lot single-family. Under their most ambitious smart growth planning strategies, SCAG and SANDAG and MTC all project that at least 85% of their growth could be focused on attached and small-lot housing. MTC, SANDAG and SACOG anticipate locating most of their regions’ growth in transit priority areas, while SCAG projects only about half of its growth will occur in designated transit areas.

Based on forecasts from the Air Resources Board, the regions anticipate an increase in vehicle maintenance and fuel prices, with real automobile operating costs per mile in 2035 about 45% greater than 2005, expressed in constant dollars. While this may seem like a significant increase and a deterrent to automobile travel, it is important to note that 2005 California gasoline prices were about \$2.50 per gallon. Price increases that have already occurred since 2005 represent about half of the 2005-to-2035 growth projected by ARB. Relative to today’s fuel prices, the 2035 projections translates to an increase of less than 1% per year.



In their most-ambitious scenarios, the major MPOs also tested roadway congestion pricing and higher parking fees, and all four tested additional mileage-based fees (through mechanisms such as VMT fees or carbon taxes) of between 3 cents and 8 cents per mile.

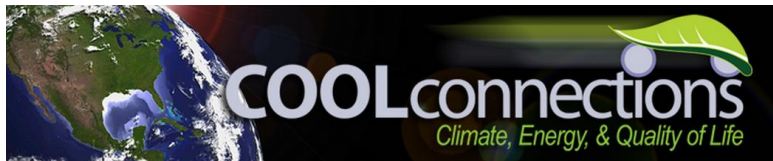
SCAG, SANDAG and SACOG also anticipate significant increases in transit service per capita by 2035. However, among the three largest MPOs, it is MTC that projects the greatest increase in per capita transit ridership. This appears to support the notion that, for regions with well-established transit networks, a combination of high levels of roadway pricing and strong orientation of land use growth toward transit opportunity areas produces the greatest gains in transit use.

While SACOG anticipates increasing the Sacramento region's ability to reduce GHG per capita beyond 2020, the other major region's project 2035 reductions per capita to remain relatively static and even decline beyond 2020. This finding was among several that drew questions from RTAC members.

### Ambitious Enough?

The public and RTAC members offered comments on the assumptions and analysis methods, testing whether the MPO scenarios and estimates had gone far enough in reducing travel and GHG. These included questions on:

- ◆ **whether assumptions on land use respond to anticipated growth in market demand for compact growth** -- testimony last year to the RTAC by representatives of the development community and recent reports on real estate development trends and forecasts suggest that the most ambitious land use forecasts presented by the MPOs may, in fact, be in direct line with direction of the real estate market and that the MPO "achievable" forecasts might not be ambitious enough.
- ◆ **whether roadway pricing assumptions were ambitious enough, given the above-mentioned modest escalation in fuel prices projected over the next 25 years** -- even when combined with the MPOs roadway pricing assumptions, the low growth in auto operating costs results in a continuing erosion in roadway user costs per mile traveled, a phenomenon that has produced profound loss in real transportation funding over the past 40 years.
- ◆ **the reasons for worsening jobs/housing balances in several regions** -- in spite of the SB 375 requirement that regions achieve a feasible balance
- ◆ **differences in the estimated effectiveness of travel demand management (TDM)** -- an apparent inconsistency in the reports was San Diego's ability to achieve significantly greater benefits from TDM strategies than the other major regions, even though its list of strategies appears less ambitious
- ◆ **the lack of VMT information** -- the primary MPO reporting was presented in terms of reductions in GHG emissions, combining the effects of reduced vehicle miles of travel (VMT) with the assumed effects of improved vehicle fleet fuel efficiency and the carbon content of fuels; SB375 places specific emphasis on the degree to which coordinated regional land use and transportation strategies reduce VMT as a distinct component of GHG reduction; apparent anomalies in the data submitted by some of the MPOs, including increases in vehicle trips per capita between 2005 and 2035 and projected reductions in GHG effectiveness over time provoked RTAC members to request VMT statistics or similar clarifying information.



RTAC members also questioned several counter-intuitive findings exhibited in the findings. These include the fact that the achievable 2020 reduction percentages for the three largest MPOs were actually higher than projected reductions in 2035. Several possible explanations were mentioned, such as pre-2020 implementation of roadway pricing and vehicle fuel economy and low-carbon fuel standards, but several RTAC members believed that more information was needed in order to judge the credibility of these assumptions and results. They recommended that ARB obtain more complete information, including VMT forecasts, from the MPOs before concluding that the performance dip should be adopted into 2035 draft targets ARB will set by June 30.

Continuing Refinement

In response to comments received and their on-going planning efforts, the MPOs have continued to submit information since the May 25 RTAC meeting, and have adjusted some of the forecasts. ARB posts this information at:

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

The following table summarizing information submitted through June 8:

| <b>PROPOSED DRAFT TARGETS FOR SB375 COMPLIANCE – June 8, 2010</b> |                                  |             |  |              |
|---|----------------------------------|-------------|--|--------------|
| <b>(Percent Reductions in GHG per Capita from 2005 Baseline)</b>  |                                  |             |  |              |
|   | <b>“Most Ambitious Scenario”</b> |             | <b>“Ambitious &amp; Achievable Scenario”</b> |              |
|   | <b>2020</b>                      | <b>2035</b> | <b>2020</b>                                  | <b>2035</b>  |
| <b>MTC</b>  | -11%                             | -12%        | -5%  | -3%          |
| <b>SCAG</b>   | -10%                             | -12%        | -8%  | -6%          |
| <b>SACOG</b>  | -8%                              | -17%        | -5% to -6%                                   | -14% to -15% |

Includes information provided by MPOs during and since May 25 meeting of SB375 RTAC.  
 Summary prepared by Lauren Michele (Hilliard), [Policy in Motion](#).

The findings reflect the following efforts by the individual MPOs:

- ◆ **MTC** -- MTC’s Aggressive Alternative Scenario would increase residential densities and implement a fourfold increase in pricing measures for congestion, parking, tolls, fuel, and VMT fees/taxes. Their RTP Project Alternative Scenario includes 81% of expenditures for maintenance & operations, 14% for transit expansion, 3% for road expansion, and 2% for non-motorized.
- ◆ **SCAG** -- Scenario 5 includes SCAG’s “Blueprint 2 Land Use,” implementation of California’s High-Speed Rail Network Phase 1 (2020) and Phase 2 (2035), demand management, system efficiency, roadway and non-motorized infrastructure expansion, 20% decrease in transit headways, HOT lanes, and a VMT fee (2035). Congestion and parking pricing were not included in this “most ambitious scenario.” SCAG also presented an “ambitious and achievable scenario” as Scenario 3, which includes a “Blueprint 1 Land Use,” implementation of California’s High-Speed Rail Network Phase 1 (2020) and Phase 2 (2035), demand management, system efficiency, roadway and non-motorized infrastructure expansion, and RTP amended transit investments – with this scenario excluding congestion, parking, or VMT pricing.



- ◆ **SACOG** -- While MTC and SCAG presented roughly similar figures for their estimated GHG/capita reduction percentages under both their “most ambitious scenario” and “ambitious & achievable” scenario, SACOG’s figures have a few notable differences when compared to the other regions. Scenario 7 (most ambitious) includes residential density of approximately 10 dwelling units per acre, transit fare reductions with a 15 percent service increase, demand management, system efficiency, and pricing – including congestion, parking, fuel and VMT taxes/fees. SACOG has also corrected several typos contained in the RTAC workshop materials. The “most ambitious” scenario should reflect SACOG’s Scenario 7, not Scenario 6 as the footnotes in the table cite. SACOG has recommended an “ambitious and achievable” GHG per capita target to reflect a combination of Scenarios 5 and 6, which would be a deeper percent reduction than contained in the region’s latest RTP (Metropolitan Transportation Plan 2025) but less than Scenario 7 due to implementation difficulties for many pricing options. SACOG is the only MPO estimating greater per capita GHG reduction ranges for 2035 than 2020 in either scenario.
  
- ◆ **SANDAG** -- Updated “Scenario C – Pricing” estimates prepared as of May 18, 2010 estimated a per capita reduction in greenhouse gas emissions of 18% by 2020 and 16% by 2035. This scenario includes pricing for congestion, parking, fuel, and VMT fees/taxes. SANDAG is currently developing a “Hybrid Scenario,” which will combine transportation demand management, system efficiency, transit/non-motorized infrastructure expansion, and pricing mechanisms. SANDAG presented a chart at the May 25, 2010 RTAC workshop that illustrated a 2035 Hybrid Scenario figure of approximately 21.2 lbs CO<sub>2</sub>E/capita compared to a 26 lbs CO<sub>2</sub>E/capita baseline. This translated to a 2035 GHG/capita reduction of 18.5% for the Hybrid Scenario. Figures for the 2020 Hybrid Scenario were not presented during the meeting.

### Questions Remain

ARB workshops and Board hearings on targets will begin June 24 and continue through July. In addition to the specific details on strategies and performance levels represented in the individual MPO “ambitious and achievable” strategies, several substantial issues remain for ARB to address in its deliberations in the coming months. These include:

- ◆ whether ARB should set a uniform statewide target, as suggested in the September 2009 RTAC findings, or allow that regional variations, matching the individual target proposals submitted last week.
  
- ◆ whether to set target ranges, rather than specific targets, that might allow the MPOs to perform within the ranges between “ambitious” and “achievable” as defined by each MPO
  
- ◆ the extent to which MPOs and others might perform technical reasonableness checks on the MPO modeling analysis, using information on typical effectiveness of land use and TDM strategies that the University of California has been preparing for ARB
  
- ◆ how to translate the final SB375 GHG reduction targets into an update to the AB 32 Scoping Plan (published by ARB in June 2008) which predicted that the land use and associated changes in transportation emphasis could deliver a 4% reduction in GHG (or 5 million metric tons) relative to levels that would prevail in 2020 under business-as-usual conditions