

## **APPENDIX A. MPO Target Recommendations and CARB Staff Recommendations**

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## **Appendix A. MPO Target Recommendations and CARB Staff Recommendations**

The following sections summarize the 18 MPO regions, and describe the SB 375 GHG emissions reduction target recommendations and analysis submitted by MPO staff to CARB. CARB staff's recommendations are also presented relative to the MPOs' recommendations. For various policy and technical reasons, the discussions of MPO target recommendations are organized into three groups: 1) the four largest MPOs, 2) the eight MPOs in the San Joaquin Valley; and 3) the six remaining small MPOs.

### **A. The Four Largest MPOs**

The four largest MPOs (by population) include the Metropolitan Transportation Commission (MTC)/Association of Bay Area Governments (ABAG), the Sacramento Area Council of Governments (SACOG), the San Diego Association of Governments (SANDAG), and the Southern California Association of Governments (SCAG). These four regions collectively comprise the majority (82 percent) of the State's population and associated GHG emissions from light-duty vehicles.

During the first round of target setting in 2010, the four largest MPOs shared information and conducted testing of various scenarios to compare relative GHG emissions reduction benefits using their transportation models and other modeling tools. In 2010, the MPOs made their target recommendations to CARB based on these types of analyses, and CARB recommended targets that largely matched the MPOs' recommendations. The SCSs prepared by these MPOs since that time have demonstrated that, if implemented, they would meet or exceed their current targets.

Over the course of the last two years, CARB staff engaged with these MPOs to encourage them to be more aggressive in their SCSs and GHG emissions reduction outcomes. The MPOs largely indicated that their current SCSs represent the most aggressive and feasible scenarios with respect to land use and transportation policies.

The recommended targets for this group of MPOs are based on CARB staff's evaluation of a number of factors. They include a look at the strategies included within these MPOs' most recently adopted SCSs, the strategies and rebound effect impacts they evaluated as part of their additional analyses submittal to CARB, as well as consideration of whether and how these larger MPOs have incorporated different strategy types and impacts.

Table 1 characterizes CARB staff's understanding of strategy types included in each of these MPOs most current SCSs.

**Table 1: SCS Strategy Examples**

Strategy Type	Examples
Land Use	Infill development, increased multi-family and/or small lot development, increased densities for residential and commercial development, transit-oriented development, etc.
Transportation	Increased transit operations and efficiency, bike and pedestrian infrastructure, bikeshare systems, complete streets policies, etc.
Transportation Demand Management (TDM)	Carpool/vanpooling, rideshare and ridematching programs, carshare, high-occupancy vehicle (HOV) lanes, parking supply management, transportation incentive programs, etc.
Transportation Systems Management (TSM)	Traffic signal optimization, transit signal priority, ramp metering, incident management, intelligent transportation systems, integrated corridor management, etc.
Pricing Strategies	High-occupancy toll (HOT) lanes, local/regional congestion pricing, variable parking pricing, etc.
Vehicle Technology/Enhanced Mobility	ZEV/PHEV charging infrastructure, vehicle-to-vehicle technology, vehicle-to-infrastructure technology, neighborhood electric vehicles, autonomous vehicles, etc.

There are some SCS strategies that are included in existing SCSs but are not quantified for GHG emissions reduction credit toward SB 375. These include transportation demand or system management components such as parking supply management employer sponsored rideshare and ridematching programs, and transportation aggregators like real-time travel information; transportation strategies such as bikeshare systems and neighborhood electric vehicles; and congestion pricing strategies.

Some strategies, like the emergence of autonomous vehicles, have not been quantified in any SCS. This includes potential GHG emissions reduction benefits of vehicle-to-vehicle technology and vehicle-to-infrastructure technology where automobiles can communicate with one another and infrastructure to optimize traffic flow. CARB and MPOs are working on quantification methodologies and gathering pertinent data for inclusion in future SCSs. These areas present additional opportunities for GHG emissions reductions beyond existing SCSs.

Table 2 summarizes the strategy opportunity areas CARB staff requested the MPOs analyze for potential further reduction in future SCSs, which areas each MPO evaluated for additional reductions as part of their most recent analyses, and CARB staff’s review.

**Table 2: Potential 2035 GHG Target Impacts – MPO Analysis and CARB Review**

Strategy Type	SACOG*	MTC*	SANDAG*	SCAG*	CARB
Land Use	-4%	-1.6%	-2%	-0.1%	0 to -4%
Transit			-1%		
Active Transportation		Value Not Provided	Value Not Provided	-0.4%	
TDM/TSM	Value Not Provided	Value Not Provided	Value Not Provided	Value Not Provided	-0.5%
Regional/Local Pricing	Value Not Provided	Value Not Provided	Value Not Provided	Value Not Provided	-0.5%
Vehicle Technology: ZEV	-1%	Value Not Provided	-20%	Value Not Provided	-1%
Enhanced Mobility: CAVs	Value Not Provided	Value Not Provided	Value Not Provided	-2%	+/-
Demographic Changes	Value Not Provided	Value Not Provided	Value Not Provided	Value Not Provided	+/-
Rebound Effect	+2 to +3%	+1%	+1%	- <sup>A</sup>	+1%
					-1 to -5%

\* MPO values are not fiscally constrained.

<sup>A</sup> SCAG staff have indicated to CARB that their originally reported rebound effect estimate continues to be refined and is closer to CARB’s estimate.

Based on the MPO test results above, consideration of the current research and recent policy developments, CARB staff expects MPOs to be able to achieve additional reductions beyond the adopted SCSs. While differences across the regions mean the same strategies may produce different emissions reduction outcomes, CARB staff estimate that through different combinations of strategies in each region, each may be able achieve additional reductions on the order of 1 to 5 percent compared to each of their currently adopted SCSs.

In Table 2, the column labeled “CARB” reflects CARB staff’s assumptions in developing the range. Assumed potential additional reductions from Land Use, Transit, and Active Transportation are taken from the range of effect provided by the four large MPO tests. Reductions from additional or enhanced TDM/TSM, regional/local pricing, and vehicle technology are conservative low bound estimates based on the latest empirical literature<sup>1</sup> and CARB staff’s consideration of these types of strategies already included in these MPOs’ SCSs. CARB staff did not quantify or assume enhanced mobility

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<sup>1</sup> See Urban Land Institute, Moving Cooler An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions, Technical Appendices, October 2009.

strategies such as connected and autonomous vehicles and demographic factors as part of the target update range at this time. For estimating the rebound effect, CARB staff based its estimate on a review of the latest empirical literature.<sup>2</sup> The “value not provided” indicates that the MPO did not provide information on additional GHG emissions reductions beyond the strategies contained in the existing SCS for these strategy areas. In some cases, this means the MPO did not conduct analysis for the particular strategy and/or the MPO indicated the strategy was already fully explored through development of their most recently adopted SCS. CARB is focused on GHG emissions reductions that go beyond the existing SCSs to provide a target that is both ambitious and achievable.

At the same time, CARB staff have considered additional analysis and information that the MPOs have provided to show that many of the 2035 GHG emissions reduction percentages that are reflected in their latest plans are higher than what can be expected today when accounting for latest assumptions of increasing vehicle fuel efficiency, economic recovery, available funding, and housing development rates.

On balance, the results are MPO recommendations for numerical GHG emissions reduction targets that include commitments for additional work on SB 375 land use and transportation strategies, but are not measurably higher in magnitude than what MPOs’ claimed their previous plans would achieve. This is consistent with what both CARB and MPO staffs have experienced and learned over the first rounds of SCS review about shortfalls of the current SB 375 target metric and using modeling as the primary means for demonstrating SB 375 target achievement. Under the current approach, target achievement is dependent not only on things MPOs can control (their policies and investments), but things that they do not control (such as changes to forecasted demographics, fuel price, fleet mix, etc.) as well. The experience to date has been mixed, but both MPO and CARB staff agree that programmatic changes are needed to target achievement accounting that focus more directly on what actions MPOs are taking relative to SB 375 strategies.

Recognizing CARB staff’s assessment of potential for additional reductions, the need to adjust the MPOs’ previous assumptions based on the latest information, as well as the desire to better focus and tie program achievement to areas an MPO can control

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<sup>2</sup> See both California Air Resources Board, LEV III Economic Analysis Technical Support Document, Appendix S, December 7, 2011, <https://www.arb.ca.gov/regact/2012/leviiighg2012/levapps.pdf> and US Environmental Protection Agency, The Rebound Effect from Fuel Efficiency Standards: Measurement and Projection to 2035, <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100N11T.PDF?Dockey=P100N11T.PDF>.

relative to their land use and transportation policies and investments, CARB staff recommends updating and enhancing the current targets and our evaluation method of MPO plans to meet them, to achieve greater emphasis on MPO strategy and investment decisions and more effective program implementation.

To achieve this, for the four large MPOs, CARB staff recommends setting their 2035 targets near the level of the MPO recommendations, with the provision that these MPOs begin reporting to CARB: 1) actual changes in land use and transportation metrics representing their SCS strategies between 2005 and their plan base year, and 2) the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. The specific technical details of these provisions will be outlined in CARB’s SB 375 Program Guidelines for SCS review occurring this summer.

Individual recommendations provided by each of the four large MPOs and CARB’s recommended targets are discussed separately below.

### **1. Metropolitan Transportation Commission/Association of Bay Area Governments**

The Metropolitan Transportation Commission/Association of Bay Area Governments (MTC/ABAG) region is located in the San Francisco Bay area, and includes the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. MTC/ABAG proposes per capita GHG emission reduction targets of 18 percent in 2035 relative to 2005 emissions. A 2020 target recommendation was not provided. MTC/ABAG’s original SB 375 targets were a 7 percent reduction in 2020 and a 15 percent reduction in 2035 relative to 2005. The first SCS, adopted in July 2013, would, if implemented, achieve 10 percent per capita GHG emission reduction in 2020 and a 16 percent reduction in 2035 compared with 2005 levels.

	<b>2020</b>	<b>2035</b>
Existing Target	-7%	-15%
2013 SCS Anticipated Performance	-10%	-16%
2017 SCS Anticipated Performance	-14%*	-15.5%*
MTC/ABAG Target Recommendation	n/a	-18%
CARB Staff Recommendation	-10%	-19%

\* Indicates SCS that is adopted but not yet evaluated by CARB.

MTC/ABAG’s 2013 SCS encourages growth in locally nominated “priority development areas” while preserving land in identified “priority conservation areas”, resulting in the accommodation of all of the region’s growth within five percent of the region’s land. With SCS implementation, the region’s residential density will increase by about 5 percent between 2010 and 2020, and between 2010 and 2040 it will increase by

about 19 percent. The SCS replaces and expands the transit fleet and capacity and incentivizes housing production near transit. The SCS also invests in several climate initiative programs that support reducing VMT and promoting cleaner fuels and technology such as: electric vehicle incentive programs, expansion of the electric vehicle charging network, vanpool incentives, and expansion of car-sharing services.

MTC/ABAG adopted their second SCS in July 2017. This plan builds upon existing strategies from the region's first SCS and continues to address the region's housing needs, expand transportation to accommodate future growth, and maintains the existing infrastructure. The total budget for the RTP/SCS is \$303 billion in 2040 dollars, with about 63 percent of the funding from local sources, 15 percent from State sources, and the remaining from federal and other sources.

Based on development of the 2017 SCS and additional analysis, MTC/ABAG staff recommended a per capita GHG reduction target of 18 percent in 2035 from 2005 levels. In total, MTC/ABAG's recommendation represents a GHG reduction commitment from additional or enhanced strategies in the range of an additional 2.5 percentage points. MTC/ABAG's analysis showed that in order to achieve these higher GHG emissions reductions, the region will need significant investments in transit and aggressive market intervention for denser land use development. MTC/ABAG's SB 375 target recommendation is conditional on several factors such as: the need for a State pricing mechanism to increase auto-operating cost; a dedicated funding mechanism for transit, ridesharing, and active transportation; and additional funding for RTP/SCS implementation. It is important to note that increasing densities within the Bay area has the potential to lead to displacement and the addition of new pricing mechanisms, like a road user fee, may lead to equity concerns. The Bay area is sensitive to these issues due to the already high cost of housing.

The next RTP/SCS adopted by MTC/ABAG that will be subject to the updated SB 375 targets will be adopted in 2021. CARB staff recommends an SB 375 target of 10 percent in 2020 and 19 percent in 2035 compared with 2005 levels. CARB staff's recommendation is slightly higher than the MPO recommendation, which was provided only for 2035. MTC/ABAG must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. This recommendation is based on review of analysis submitted by MTC/ABAG, and CARB staff's analysis of the potential for additional reductions from land use and transportation strategies.

## 2. Sacramento Area Council of Governments

The Sacramento Area Council of Government (SACOG) region is located in central California above the San Joaquin Valley and inland from the San Francisco Bay area. The region includes the counties of El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba. SACOG proposes a per capita GHG emission reduction target of 18 percent in 2035 relative to 2005 emissions. A 2020 target recommendation was not provided. SACOG's original SB 375 targets were a 7 percent reduction in 2020 and a 16 percent reduction in 2035 relative to 2005. The first SCS, adopted in April 2012, would, if implemented, achieve 10 percent per capita GHG emission reduction in 2020 and a 16 percent reduction in 2035 compared with 2005 levels. The second SCS, adopted in February 2016, would, if implemented, achieve a 7.6 percent per capita GHG emission reduction in 2020 and a 15.6 percent per capita GHG emission reduction in 2035.

	<b>2020</b>	<b>2035</b>
Existing Target	-7%	-16%
2012 SCS Anticipated Performance	-10%	-16%
2016 SCS Anticipated Performance	-8%	-16%
SACOG Target Recommendation	n/a	-18 to -19%
CARB Staff Recommendation	-7%	-19%*

\* If SACOG is not able to secure the funding and commitments to implement their proposed pilot project as discussed below, CARB staff would evaluate the SCS performance against an 18 percent target.

In 2016, SACOG adopted its second Metropolitan Transportation Plan (MTP)/SCS, which continues to emphasize the key strategies from the first (2012) SCS that reduce barriers to infill development, and increase density in targeted areas served by transit to make the transit system more viable and efficient. SACOG also took a "fix-it-first" approach when prioritizing roadway funding where roadway maintenance and rehabilitation projects were prioritized over projects that would add new roadway capacity. SACOG is also implementing its complete streets policy by configuring on-street bike lanes and including pedestrian safety improvements into scheduled roadway maintenance projects. Since there is limited funding available to complete all the desired transportation projects in the region, SACOG applied project phasing criteria regarding roadway utilization and peak period congestion to determine which transportation projects should be completed within the 20-year plan horizon, and which projects would have to wait. The outcome of SACOG's growth strategy in the 2016 SCS is to accommodate a 36 percent population increase on less than 2 percent of the region's land area. The performance outcomes of SACOG's 2016 MTP/SCS will include an increase in the number of homes and jobs near transit, improved jobs/housing balance, over a doubling of bike lane miles, and expansion of transit

services. The total budget for the 2016 RTP/SCS is \$45.8 billion in 2036 dollars, with about 62 percent of the funding from local sources, 27 percent from State sources, and the remaining 11 percent from federal sources.

SACOG staff recommended a per capita GHG reduction target of 18 to 19 percent in 2035 from 2005 levels based on their recent analysis. In developing this recommendation range, SACOG's analysis focused on strategies related to incentivizing early growth in infill and transit-oriented development areas, increasing transit services and modernizing deployment of transit services, as well as investment and innovation in locally-initiated programs to accelerate electric vehicle penetration. SACOG's analysis also identified several State supportive measures that would be needed to help achieve these additional GHG reductions.

The next MTP/SCS adopted by SACOG that will be subject to the updated SB 375 targets will be adopted in 2020. CARB staff recommends an SB 375 target of 7 percent in 2020 and 19 percent in 2035 compared with 2005 levels. The 19 percent target listed for SACOG for 2035 is based on a pilot test proposed by SACOG staff of an enhanced SCS that recognizes some of the differences between the Sacramento region and the other three large MPOs. The key regional differences are detailed in SACOG's Regional Progress Report<sup>3</sup>: the real estate market in Sacramento is more like the Central Valley, and the boom in attached housing which occurred in the coastal MPOs missed Sacramento; its expected growth rate is higher than any of the coastal MPOs, its transit systems are smaller and less developed, and transit ridership is lower than in any the coastal MPOs. The goal of the pilot is to develop and implement an SCS that more effectively coordinates growth with transportation investments within this type of regional environment. The SACOG proposed pilot will include some combination of regional and local electric vehicle infrastructure development; infill development incentives; transit-oriented development incentives; innovative TDM and "Next Generation Transit" solutions; alternatives or substitutes to the gas tax (e.g., mileage-based user fees); and/or agriculture processing and forest management programs. Success of the SACOG pilot will be dependent on actions taken by SACOG to enhance current SCS implementation efforts and to launch new, innovative programs; and actions taken by the State in support of those enhanced efforts and new programs. The pilot is intended to enable the region to meet a target of 19 percent which is beyond the 18 percent target that SACOG staff believes it can meet with enhancements to its

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<sup>3</sup> See Sacramento Area Council of Governments, Sacramento Area Regional Progress Report, June 2017, <https://www.sacog.org/post/regional-progress-report>.

current SCS strategies. Because the pilot includes innovative programs that require new funding and commitments to implement, CARB staff will work closely with SACOG staff to track and monitor SACOG's SCS development. If SACOG is not able to secure the funding and commitments to implement those strategies, CARB staff would evaluate the SCS performance against an 18 percent target.

SACOG must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. This recommendation is based on review of analysis submitted by SACOG, and CARB staff's analysis of the potential for additional reductions from land use and transportation strategies.

### 3. San Diego Association of Governments

The San Diego Association of Governments (SANDAG) region is located in the southernmost area of California and shares a border with the country of Mexico and the Pacific Ocean. The SANDAG region shares the same boundary as the County of San Diego. SANDAG proposes a per capita GHG emissions reduction target of 18 percent in 2035 relative to 2005 emissions. A 2020 target recommendation was not provided. SANDAG's original SB 375 targets were a 7 percent reduction in 2020 and a 13 percent reduction in 2035 relative to 2005. The first SCS, adopted in October 2011, would, if implemented, achieve a 14 percent per capita GHG emissions reduction in 2020 and a 13 percent reduction in 2035 compared with 2005 levels. The second SCS, adopted in October 2015, would, if implemented, achieve a 15 percent per capita GHG emissions reduction in 2020 and a 21 percent per capita GHG emissions reduction in 2035. In May 2017, SANDAG submitted a summary of updates made to their travel demand model since the 2015 SCS. Updates to various factors, like population, households, land use, and traffic counts, have lowered SANDAG's GHG emissions reduction estimates for the 2015 SCS. Instead of 21 percent reduction, SANDAG estimates that, if implemented, their 2015 SCS would result in an 18 percent per capita reduction from 2005 levels by 2035.

	<b>2020</b>	<b>2035</b>
Existing Target	-7%	-13%
2011 SCS Anticipated Performance	-14%	-13%
2015 SCS Anticipated Performance	-15%	-18%
SANDAG Target Recommendation	n/a	-18%
CARB Staff Recommendation	-15%	-19%

In 2015, SANDAG adopted its second SCS, which continues to emphasize the key strategies from the first (2011) SCS that support a more sustainable future for the San

Diego region. SANDAG anticipates cities will continue to grow within existing urban boundaries and the SCS reflects smart growth trends in local general and specific plans, which direct growth in existing urbanized areas and along key transportation corridors. This development pattern will bring people and destinations closer together in more mixed-use, compact communities that facilitate walking and transit use. The SCS includes an extensive regional bus system, improved commuter and light rail service, an expanded regional bicycle network, improved pedestrian infrastructure, dedicated highway lanes for carpool and express buses, and several transportation demand management programs that reduce the number of vehicle trips. Overall, these types of strategies would result in closer proximity of homes and jobs to high frequency transit, with almost 70 percent of all jobs being within a half mile of transit by 2035, and almost 60 percent of new housing being within a half mile of transit by 2035. In addition, multi-family housing would make up 76 percent of new housing units through 2035, and the total share of multi-family units would increase from 37 percent in 2012 to 44 percent in 2035. Travel times in key corridors would be reduced by an average of 18 minutes by 2035 and ridership is expected to more than double from about 356,000 daily boardings in 2012 to over 775,000 in 2035. The total budget for the 2015 RTP/SCS is \$204 billion in 2050 dollars, with about 48 percent of the funding from local sources, 34 percent from State sources, and the remaining 18 percent from federal sources.

Based on analysis conducted throughout 2016 and 2017, SANDAG staff recommended a per capita GHG emissions reduction target of 18 percent in 2035 from 2005 levels. SANDAG's analysis showed that limited GHG emissions reductions can be achieved through aggressive land use changes and transit investment assumptions. The majority of additional GHG emissions reductions would need to come from increasing the cost of driving and the number of zero-emission passenger vehicles, which are outside the direct control of SANDAG and SB 375.

The next RTP/SCS adopted by SANDAG that will be subject to the updated SB 375 targets will be adopted in 2019. CARB staff recommends an SB 375 target of 15 percent in 2020 and 19 percent in 2035 compared with 2005 levels. This recommendation is slightly higher than the MPO recommendation, which was provided only for 2035. SANDAG must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. This recommendation is based on review of analysis submitted by SANDAG, and CARB staff's analysis of the potential for additional reductions from land use and transportation strategies.

#### 4. Southern California Association of Governments

The Southern California Association of Governments (SCAG) region includes the counties of Imperial, Orange, Los Angeles, Riverside, San Bernardino, and Ventura. SCAG proposes a per capita GHG emissions reduction target of 18 percent in 2035 relative to 2005 emissions. A 2020 target recommendation was not provided. SCAG’s original SB 375 targets were an 8 percent reduction in 2020 and a 13 percent reduction in 2035 relative to 2005. The first SCS, adopted in April 2012, would, if implemented, achieve a 9 percent per capita GHG emissions reduction in 2020 and a 16 percent reduction in 2035 compared with 2005 levels. The second SCS, adopted in April 2016, if implemented, was estimated to achieve an 8 percent per capita GHG emissions reduction in 2020 and an 18 percent per capita GHG emission reduction in 2035. Since the release of CARB staff’s draft proposal in June 2017, SCAG submitted a summary of corrections and updates made to modeling assumptions and off-model quantification methods used for their 2016 SCS. Updates to various factors – (1) a rounding adjustment for neighborhood electric vehicles, (2) technical correction for the GHG reductions for ZEVs, (3) updated assumptions for enhanced mobility and updated growth projections – have lowered SCAG’s GHG emissions reduction estimates for the 2016 SCS. Instead of 18 percent reduction, SCAG estimates that, if implemented, their 2016 SCS would result in a 16 percent per capita reduction from 2005 levels by 2035. Additional information on these adjustments can be found in Appendix B. MPO Scenarios and Data Submittals.

	<b>2020</b>	<b>2035</b>
Existing Target	-8%	-13%
2012 SCS Anticipated Performance	-9%	-16%
2016 SCS Anticipated Performance	-8%	-16%
SCAG Target Recommendation	n/a	-18%
CARB Staff Recommendation	-8%	-19%

In 2016, SCAG adopted its second SCS, which continues to emphasize the key land use and transportation strategies in the first (2012) SCS. The goals of SCAG’s first SCS include ensuring the region’s long-term economic competitiveness and improving quality of life for current and future generations. The region is working to reverse air pollution trends, increase investment in alternatives to single occupancy auto use, create greater opportunities for affordable housing and housing diversity, and strengthen the economy. It includes an extensive regional bus and bus rapid transit (BRT) system, improved commuter and light rail service, an expanded regional bicycle network, improved pedestrian infrastructure, dedicated highway lanes for carpool and express buses, and several TDM programs that reduce the number of vehicle trips. The estimated outcomes of the 2016 SCS by 2035 include 46 percent of the total household growth and 55 percent of total employment growth will be located within high-quality

transit areas. In addition, new housing development is anticipated to be 33 percent single-family and 67 percent multi-family, with the majority of new growth located in infill and compact walkable areas. The SCS also reduces spending on system expansion in favor of increased funding for roadway maintenance and rehabilitation compared to the 2012 RTP/SCS. By 2040, over 170,000 miles of bus routes and 72,000 miles of transit rail will be added to the system. The total budget for the 2016 RTP/SCS is \$556.5 billion in 2016 dollars, with about 51 percent of the funding from local sources, 30 percent from federal sources, and the remaining 19 percent from State sources.

SCAG staff initially recommended a per capita GHG emissions reduction target of 18 percent in 2035 from 2005 levels, and then revised their recommendation to 19 percent based on a more recent analysis. SCAG's analysis focused on strategies related to active transportation, zero emission vehicles, and mobility innovations and indicated that an additional 2 to 2.5 percentage points achieved beyond the last plan through additional programs, investments, and mobility innovations, at an estimated cost of \$10 billion. Additional reductions would partially be supported through a local sales-tax measure (Measure M) dedicated to transportation funding, which voters approved in Los Angeles County in 2016.

The next RTP/SCS adopted by SCAG that will be subject to the updated SB 375 targets will be adopted in 2020. CARB recommends an SB 375 target of 8 percent in 2020 and 19 percent in 2035 compared with 2005 levels. This recommendation is the same as the most recent MPO recommendation, which was provided only for 2035. SCAG must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. This recommendation is based on review of analysis submitted by SCAG, and CARB staff's analysis of the potential for additional reductions due to land use and transportation strategies.

## **B. The San Joaquin Valley MPOs**

In general, limited technical data was available in 2010 on which to base the initial target recommendations for the San Joaquin Valley (Valley) MPOs. The Valley MPOs collectively represent 11 percent of the State's population and 10 percent of the associated GHG emissions from light-duty vehicles. In 2010, CARB established placeholder targets of 5 percent in 2020 and 10 percent in 2035 for all Valley MPOs, with the expectation that the targets would be revised once transportation model improvements were completed and alternative scenario analyses could be provided. The Valley MPOs completed a round of model improvements in 2013 for use in their 2014 RTP/SCSs. The per capita GHG emissions reductions from the SCSs adopted in

2014 varied widely across the eight Valley MPOs. Some Valley MPOs produced transportation model results that showed that their 2014 SCSs would greatly exceed their targets, while others could not meet their targets. The Valley MPO staffs attributed the variability to several factors, including the models' treatment of interregional travel, model inputs and assumptions such as auto operating cost, and socioeconomic conditions, such as recovery from the recession.

The Valley MPOs updated their transportation models in the middle of 2016 (Valley Model Improvement Program 2, or VMIP2). It was important to the Valley MPOs that their target recommendations be based on the newest version of the transportation-modeling platform because the new modeling platform would also be used to estimate VMT and GHG emissions for their future SCSs, which would be evaluated against the new SB 375 targets. In contrast to the 2010 targets, which were uniform across all eight Valley MPOs, the updated targets would be unique to each MPO.

The San Joaquin Valley MPOs submitted target analysis information using preliminary results from their most recent model improvement effort. This work utilizes the most recent Census, American Community Survey and California Household Travel Survey data, and it implements changes to the model structure based on CARB feedback received during the last SCS evaluation period. The preliminary result looks to be a more accurate accounting of their current plan achievement. Since the release of CARB staff's draft proposal in June 2017, some Valley MPOs reached out to CARB to ensure understanding of their analysis and target recommendations. San Joaquin COG, Stanislaus COG, and Merced CAG, submitted additional information clarifying the auto operating cost analysis and economic growth impacts for their regions. This information is included in Appendix B. MPO Scenarios and Data Submittals. The Valley MPOs are continuing to update and finalize the VMIP2 model for their second round of SCSs. CARB staff used this information as the foundation for evaluating what would be ambitious and achievable for these MPOs for their third round of SCSs.

Similar to the previous discussion for the largest four MPOs, CARB staff expects the Valley MPOs to be able to achieve additional reductions beyond the adopted SCSs. At the same time, CARB staff have considered additional analysis and information that the MPOs have provided to show that many of the 2035 GHG emissions reduction percentages that are reflected in their latest plans are higher than what can be expected today when accounting for latest assumptions of increasing vehicle fuel efficiency, economic recovery, and available funding.

As a result, CARB staff recommends applying the same approach to updating the current targets and our evaluation method of MPO plans to meet them, to the Valley MPOs as to the four largest MPOs. The staff recommendation sets their 2035 targets

near the level of the MPO recommendations, with the provision that these MPOs shall begin reporting to CARB: 1) actual changes in land use and transportation metrics representing their SCS strategies between 2005 and their plan base year, and 2) the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. The specific technical details of these provisions will be outlined in CARB's SB 375 Program Guidelines for SCS review occurring this summer.

To determine the percent reduction that these MPOs could potentially achieve from new and/or enhanced strategies, CARB staff considered a few different factors. While the Valley MPOs did not provide quantitative test results on the amount of additional reductions that could be achieved beyond their adopted SCSs, they did provide qualitative lists of strategies they are pursuing beyond their currently adopted SCSs, CARB staff also considered the results from the large four MPOs, along with knowledge of what strategies the Valley MPOs have included in their SCSs to date, and applied a stepped reduction range, reasoning that certain strategies such as Regional and Local Pricing and Vehicle Technology would not yield as high a benefit as in the more urbanized MPOs.

Given the variability in population size and growth across the Valley MPOs, CARB staff applied a range of 1 to 2 percent additional reduction from land use and transportation strategies for the Valley MPOs compared to their adopted SCSs. For the four largest Valley MPOs (Kern, Fresno, San Joaquin, and Stanislaus) CARB staff applied an additional 2 percent reduction range to the estimated reductions from land use and transportation strategies of their currently adopted SCS. For the smaller Valley MPOs (Merced, Madera, Kings and Tulare), CARB staff applied a 1 percent reduction range to the estimated reductions from land use and transportation strategies of their currently adopted SCS.

Individual recommendations provided by each of the Valley MPOs and CARB's recommended targets are discussed separately below.

### **1. Fresno Council of Governments**

The Fresno Council of Governments (Fresno COG) region is located in the San Joaquin Valley and shares the same boundary as Fresno County. Fresno COG proposes per capita GHG emission reduction targets of 6 percent in 2020, and 13 percent in 2035 relative to 2005 emissions. Fresno COG's first SCS, adopted in June 2014, would, if implemented, achieve an 8.5 percent per capita GHG emissions reduction in 2020 and a 10.5 percent reduction in 2035 compared with 2005 levels. The reduction in SCS GHG emissions reductions for 2020 is due to updated forecasts showing higher

employment and lower population growth than what Fresno COG used in their 2014 RTP/SCS.

	<b>2020</b>	<b>2035</b>
Existing Target	-5%	-10%
2014 SCS Anticipated Performance	-8.5%	-10.5%
Fresno COG Target Recommendation	-6%	-13%
CARB Staff Recommendation	-6%	-13%

The 2014 SCS, if implemented, would change the region’s historical land use pattern and transportation investments. The plan assumes that local jurisdictions will maintain their historic rates of growth, but the growth would occur within existing urban service boundaries to encourage infill and minimize leapfrog development. Further, over 75 percent of the region’s population growth through 2035 is forecast to occur within the Fresno-Clovis Metro area, based on recently updated general plans for Fresno and Clovis. The 2014 SCS also increases transit and active transportation investments, which includes funding for five bus rapid transit lines in the city of Fresno and over 500 new lanes miles of bicycle facilities countywide. These strategies would increase the proximity of residents to transit and biking and walking facilities, leading to greater use of active modes of transportation. The 2014 SCS also includes transportation system management and transportation demand management measures (for example, carpooling, vanpooling, and ramp metering) to reduce trips and increase system efficiency. As a result of the strategies, the 2014 SCS would increase the average density of new residential development from 4.9 dwelling units per acre to 9.3 units per acre. This is due in part to the increased proportion of multi-family residential units from 22 percent to 47 percent of total new housing by 2035. This denser development also reduces the total amount of land consumed by development, leading to conversion of 38 percent less agricultural land than the prior RTP.

Fresno COG is currently in the process of developing its second SCS for adoption in 2018. This SCS will incorporate updated General Plans for the Cities of Fresno and Sanger and the County of Fresno, as well as more aggressive investments in transit, vanpool/carpool, active transportation, and alternative transportation strategies, such as car/ridesharing. Land use strategies will build upon the 2014 SCS and continue to increase densities, promote infill development, and concentrate growth along transit corridors. Based on the preliminary modeling results, Fresno COG recommends a 13 percent GHG emissions reduction target for 2035.

The next RTP/SCS adopted by Fresno COG that will be subject to the updated SB 375 targets will be adopted in 2022. CARB staff recommends an SB 375 target of 6 percent in 2020 and 13 percent in 2035. This recommendation is the same as the MPO recommendation for 2020 and 2035. Fresno COG must also report to CARB on actual

changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. CARB staff based its recommendation on review of analysis submitted by Fresno COG, updated forecasts that will be used in the 2018 RTP/SCS development process, and CARB staff’s approach of applying a required enhancement to the region’s reductions due to land use and transportation strategies of 2 percent to the four largest Valley MPOs and a 1 percent reduction to the four smaller Valley MPOs by population size.

## 2. Kern Council of Governments

The Kern Council of Governments (Kern COG) region and is the southern-most county in the San Joaquin Valley. Kern COG shares the same boundary as Kern County. Kern COG proposes per capita GHG emission reduction targets of 9 percent in 2020 and a 13 percent in 2035 relative to 2005 emissions. Kern COG’s first SCS, adopted in June 2014, would, if implemented, achieve 14.1 percent per capita GHG emissions reduction in 2020 and a 16.6 percent reduction in 2035 compared with 2005 levels. The Valley MPOs used the newest version of the transportation-modeling platform for the target recommendation and based on preliminary model runs, the 2014 SCS achieves a 9 percent reduction in 2020 and a 13 percent reduction in 2035. CARB staff used the latest model estimates for the target update process.

	<b>2020</b>	<b>2035</b>
Existing Target	-5%	-10%
2014 SCS Anticipated Performance	-9%	-13%
Kern COG Target Recommendation	-9%	-13%
CARB Staff Recommendation	-9%	-15%

Implementation of the 2014 SCS would change the region’s historical land use pattern and transportation investments through 2040. The SCS calls for new growth to be focused within existing urban boundaries as compact, infill development. Over 60 percent of the region’s population growth is forecast to occur within the Metropolitan Bakersfield area. Additional SCS strategies include increasing the number of households and jobs with access to transit and increasing the proportion of multi-family and small-lot single-family homes. The plan also dedicates a greater amount of funding for active transportation infrastructure and public transit, compared to the prior RTP. Planned transit improvements include increasing the number of natural gas buses in transit fleets, and adding additional buses for fixed routes and express service throughout the region. The plan would establish additional transit transfer stations and add a new bus rapid transit system in Metropolitan Bakersfield. With this emphasis on more compact, transit-oriented development, approximately 62 percent of total housing

and 75 percent of total jobs would be located within one-half mile of a transit station by 2040. Access to rural employment centers would also be improved, with plans to double the number of vanpool riders and construct the region’s first high-occupancy vehicle lanes to accommodate an increasing number of carpoolers.

Kern COG is currently in the process of developing its second SCS for adoption in 2018. This SCS plans to build upon strategies found in the 2014 SCS with a focus on improving transit access, increasing opportunities for active transportation, increasing investment in express buses, high-occupancy vehicle lanes, park and ride facilities, vanpooling, and bus-rapid transit and commuter rail.

The next RTP/SCS adopted by Kern COG that will be subject to the updated SB 375 targets will be adopted in 2022. CARB staff recommends an SB 375 target of 9 percent in 2020 and 15 percent in 2035. This recommendation is the same as the MPO recommendation for 2020 and more aggressive than the MPO recommendation for 2035. Kern COG must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. CARB staff based its recommendation on review of analysis submitted by Kern COG, and CARB staff’s approach of applying a required enhancement to the region’s reductions due to land use and transportation strategies of 2 percent to the four largest Valley MPOs and a 1 percent reduction to the four smaller Valley MPOs by population size.

### 3. Kings County Association of Governments

The Kings County Association of Governments (Kings CAG) region is adjacent to Tulare CAG and Kern COG located in the southern region of the San Joaquin Valley. Kings CAG shares the same boundary as Kings County. Kings CAG proposes per capita GHG emission reduction targets of 5 percent in 2020 and 12 percent in 2035 relative to 2005 emissions. The region’s first SCS, adopted in June 2014, would, if implemented, achieve a 5.1 percent per capita GHG emission reduction in 2020 and a 12.1 percent reduction in 2035 compared with 2005 levels.

	<b>2020</b>	<b>2035</b>
Existing Target	-5%	-10%
2014 SCS Anticipated Performance	-5.1%	-12.1%
Kings CAG Target Recommendation	-5%	-12%
CARB Staff Recommendation	-5%	-13%

Kings CAG’s 2014 RTP/SCS prioritizes agricultural preservation while encouraging growth in existing urbanized areas. Efforts within local jurisdictions to increase

connectivity and mix of uses will help provide more housing choices for residents and decrease travel distances to destinations. The SCS includes transportation projects that aim to meet the needs of residents such as a new park and ride facility, two new transit routes, and new bike and pedestrian facilities. Given the long commute distances common in the county, vanpools will continue to be an effective alternative to single occupant vehicle travel for some residents.

Kings CAG is currently in the process of developing its second SCS for adoption in 2018. For this SCS, Kings CAG plans to build upon the ongoing efforts in the upcoming 2018 RTP/SCS. Member agencies and regional transit providers have taken several proactive steps by implementing additional sustainability measures. These include the investment of alternative fuel vehicle fleet replacement and installation of charging stations; pursuing competitive grant funds to build active transportation projects; enhanced existing transit service with additional routes of the regional bus transit system; an additional Amtrak passenger train that will increase ridership from the Hanford station; consideration of smart growth strategies in local agency General Plan updates and in planning for new residential and commercial development that embrace complete streets transportation strategies.

The next RTP/SCS adopted by Kings CAG that will be subject to the updated SB 375 targets will be adopted in 2022. CARB staff recommends an SB 375 target of 5 percent in 2020 and 13 percent in 2035. This recommendation is the same as the MPO recommendation for 2020 and more aggressive than the MPO recommendation for 2035. Kings CAG must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. CARB staff based its recommendation on review of analysis submitted by Kings CAG, and CARB staff's approach of applying a required enhancement to the region's reductions due to land use and transportation strategies of 2 percent to the four largest Valley MPOs and a 1 percent reduction to the four smaller Valley MPOs by population size.

#### **4. Madera County Transportation Commission**

The Madera County Transportation Commission (Madera CTC) region is adjacent to Fresno COG in the San Joaquin Valley and shares the same boundary as Madera County. Madera CTC proposes per capita GHG emissions reduction targets of 10 percent in 2020 and between 15 and 20 percent in 2035 relative to 2005 emissions.

	<b>2020</b>	<b>2035</b>
Existing Target	-5%	-10%
2014 SCS w/ Amendment Anticipated Performance	At least -5%	At least -10%
Madera CTC Target Recommendation	-10%	-15% to -20%
CARB Staff Recommendation	-10%	-16%

An RTP was adopted by the Madera CTC Governing Board in 2014, but the sustainable communities strategies included with the plan did not meet the SB 375 targets. Since 2014, Madera CTC has been working to update the modeling tools and analyze the existing data, land use, and transportation strategies to provide a more accurate accounting of GHG emissions within the region. As a result, Madera CTC has amended the existing 2014 RTP/SCS and submitted this amendment to CARB in 2017. CARB staff reviewed the 2014 RTP/SCS and 2017 SCS Amendment and determined that while Madera CTC’s SCS would meet the regional targets, if implemented, further model and off-model work is needed by Madera CTC to more accurately quantify the expected net effect of its strategies.

The next RTP/SCS adopted by Madera CTC that will be subject to the updated SB 375 targets will be adopted in 2022. CARB staff recommends an SB 375 target of 10 percent in 2020 and 16 percent in 2035. This recommendation is the same as the MPO recommendation for 2020 and within the range of the MPO recommendation for 2035. CARB staff’s recommendation is informed by its review of Madera CTC’s 2014 RTP/SCS and 2017 SCS Amendment. Madera CTC must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. CARB staff based its recommendation on review of analysis submitted by Madera CTC and CARB staff’s approach of applying a required enhancement to the region’s reductions due to land use and transportation strategies of 2 percent to the four largest Valley MPOs and a 1 percent reduction to the four smaller Valley MPOs by population size.

## **5. Merced County Association of Governments**

The Merced County Association of Governments (Merced CAG) region is located adjacent to Fresno COG in the San Joaquin Valley and shares the same boundary as Merced County. Merced CAG proposes per capita GHG emissions reduction targets of 10.1 percent in 2020 and 12.7 percent in 2035 relative to 2005 emissions.

	<b>2020</b>	<b>2035</b>
Existing Target	-5%	-10%
2014 SCS w/ Amendment Anticipated Performance	-10.1%*	-12.7%*
Merced CAG Target Recommendation	-10.1%	-12.7%
CARB Staff Recommendation	-10%	-14%

\* Indicates SCS that is adopted but not yet evaluated by CARB.

An RTP was adopted by the Merced CAG Governing Board in 2014, but the sustainable communities strategy included with the plan did not meet the SB 375 targets. Merced CAG adopted an RTP/SCS Amendment in 2016, which included a more compact land use scenario and additional policies intended to further reduce VMT and associated GHG emissions. Merced CAG submitted the amended RTP/SCS with supporting information to CARB in January 2018 and CARB is currently evaluating whether the amended RTP/SCS would meet the region's existing SB 375 targets, if implemented.

The next RTP/SCS adopted by Merced CAG that will be subject to the updated SB 375 targets will be adopted in 2022. CARB staff recommends an SB 375 target of 10 percent in 2020 and 14 percent in 2035. This recommendation is the same as the MPO recommendation for 2020 and more aggressive than the MPO recommendation for 2035. Merced CAG must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. CARB staff based its recommendation on review of analysis submitted by Merced CAG, and CARB staff's approach of applying a required enhancement to the region's reductions due to land use and transportation strategies of 2 percent to the four largest Valley MPOs and a 1 percent reduction to the four smaller Valley MPOs by population size.

## **6. San Joaquin Council of Governments**

The San Joaquin Council of Governments (San Joaquin COG) region is located in the northern region of the San Joaquin Valley inland from the San Francisco Bay area. San Joaquin COG shares the same boundary as San Joaquin County. San Joaquin COG proposes per capita GHG emissions reduction targets in the range of 12 to 13 percent in 2020 and 14 to 15 percent in 2035 relative to 2005 emissions. Initial modeling of San Joaquin COG's first SCS, adopted in June 2014, estimated that if implemented, the SCS would achieve a 24.4 percent per capita GHG emissions reduction in 2020 and a 23.7 percent reduction in 2035 compared with 2005 levels. Since that time, the Valley MPOs have updated and made improvements to their models to incorporate more recent data. Based on preliminary model runs, the San Joaquin COG's 2014 SCS is

estimated to achieve a 12 percent reduction in 2020 and a 14 percent reduction in 2035, if implemented. CARB staff used the latest model estimates for the target update process.

	<b>2020</b>	<b>2035</b>
Existing Target	-5%	-10%
2014 SCS Anticipated Performance	-12%	-14%
San Joaquin COG Target Recommendation	-12% to -13%	-14% to -15%
CARB Staff Recommendation	-12%	-16%

San Joaquin COG is a single-county MPO in which low density development has been the trend, travel patterns are greatly influenced by interregional commuting. The land use and transportation strategies in its 2014 SCS attempt to address these issues by offering residents more mobility options and reducing vehicle trip lengths. Key SCS land use strategies include increasing the amount of infill development within existing urbanized areas, leading to denser development and an increase in the proportion of multi-family and small-lot single-family homes as compared to conventional lot sizes. This results in 61 percent of new growth as single-family housing and 39 percent of new growth as multi-family housing, yielding a countywide average density of ten dwelling units per acre. The SCS also dedicates an increased amount of funding for active transportation infrastructure and public transit, with six additional bus rapid transit routes in Stockton as well as some expansion of transit services in other communities. With this emphasis on transit-oriented development, the region anticipates that nearly 50 percent of new jobs and 40 percent of new homes will be located within a half mile of transit service and a substantial amount of prime farmland will be conserved through the plan’s horizon year of 2040. The SCS includes a greater focus on TDM and TSM strategies than on widening and new roadway construction, and more transit expansion and investments in bike and pedestrian facilities.

San Joaquin COG is currently in the process of developing its second SCS for adoption in 2018. San Joaquin COG has been collaborating with local agencies to ensure that the region is working toward the State’s 2030 and 2050 climate change goals by encouraging land use and transportation decisions that minimize GHG emissions. In partnership with the MPO, member agencies and regional transit providers have pursued smart growth land use planning, transit system maintenance and upgrades, cap-and-trade and Caltrans’ Active Transportation Program funds, and alternative vehicle adoption. San Joaquin COG plans to build upon these ongoing efforts in the upcoming 2018 RTP/SCS in order to continue facilitating the growth of sustainable communities.

The next RTP/SCS adopted by San Joaquin COG that will be subject to the updated SB 375 targets will be adopted in 2022. CARB staff recommends an SB 375 target of

12 percent in 2020 and 16 percent in 2035. This recommendation is the same as the MPO recommendation for 2020 and more aggressive than the MPO recommendation for 2035. San Joaquin COG must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. CARB staff based its recommendation on review of analysis submitted by San Joaquin COG, and CARB staff’s approach of applying a required enhancement to the region’s reductions due to land use and transportation strategies of 2 percent to the four largest Valley MPOs and a 1 percent reduction to the four smaller Valley MPOs by population size.

## 7. Stanislaus Council of Governments

The Stanislaus Council of Governments (Stanislaus COG) region is adjacent to San Joaquin COG located in the northern region of the San Joaquin Valley. Stanislaus COG shares the same boundary as Stanislaus County. Stanislaus COG proposes per capita GHG emissions reduction targets in the range of 12 to 13 percent in 2020 and 14 to 15 percent in 2035 relative to 2005 emissions. The region’s first SCS, adopted in June 2014, would, if implemented, achieve 24.4 percent per capita GHG emissions reduction in 2020 and a 23.7 percent reduction in 2035 compared with 2005 levels. The Valley MPOs used the newest version of the transportation-modeling platform for the target recommendation and based on preliminary model runs, the 2014 SCS achieves a 12 percent reduction in 2020 and a 14 percent reduction in 2035. CARB staff used the latest model estimates for the target update process.

	<b>2020</b>	<b>2035</b>
Existing Target	-5%	-10%
2014 SCS Anticipated Performance	-12%	-14%
Stanislaus COG Target Recommendation	-12% to -13%	-14% to -15%
CARB Staff Recommendation	-12%	-16%

The transportation and land use policies identified in the SCS are intended to reduce the distance that residents will need to drive to their jobs and amenities. Calling for a greater proportion of multi-family housing, and more mixed-use and infill development, Stanislaus COG’s SCS would result in consumption of less farmland, higher residential densities, and more jobs and houses located near transit. The SCS proposes a greater mix of housing types with 35 percent of new development as multi-family homes and 65 percent as single family homes. The plan allocates more than twice as much funding for transit as compared to previous RTPs. Projects funded in the 2014 RTP/SCS are designed to increase transit service frequencies and provide better connections to transit services, including the extension of commuter rail service to

Modesto and Turlock, which would connect the region to the Bay Area. In addition, the region has allocated funds to begin planning a bus rapid transit service between the region's largest cities, Modesto and Ceres. The regional plan also allocates an increased amount of funding for active transportation projects compared to the previous RTP. Roadway investments are shifted from new capacity-expanding projects to complete streets projects, maintenance, rehabilitation, and operational improvements.

Stanislaus COG is currently in the process of developing its second SCS for adoption in 2018. For this SCS, Stanislaus COG plans to build upon strategies found in the 2014 RTP/SCS such as encouraging local agency efforts to implement policies and programs that support sustainable communities through more compact, transit oriented, mixed-use and infill development and more efficient development patterns that enhance a connection between land use and transportation choices.

The next RTP/SCS adopted by Stanislaus COG that will be subject to the updated SB 375 targets will be adopted in 2022. CARB staff recommends an SB 375 target of 12 percent in 2020 and 16 percent in 2035. This recommendation is the same as the MPO recommendation for 2020 and more aggressive than the MPO recommendation for 2035. Stanislaus COG must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. CARB staff based its recommendation on review of analysis submitted by Stanislaus COG, and CARB staff's approach of applying a required enhancement to the region's reductions due to land use and transportation strategies of 2 percent to the four largest Valley MPOs and a 1 percent reduction to what the four smaller Valley MPOs by population size.

## **8. Tulare Association of Governments**

The Tulare Association of Governments (Tulare CAG) region is adjacent to Kern COG located in the southern region of the San Joaquin Valley. Tulare CAG shares the same boundary as Tulare County. Tulare CAG proposes per capita GHG emissions reduction targets in the range of 13 to 14 percent in 2020 and 15 to 16 percent in 2035 relative to 2005 emissions. The region's first SCS, adopted in June 2014, would, if implemented, achieve a 17.1 percent per capita GHG emissions reduction in 2020 and a 19.4 percent reduction in 2035 compared with 2005 levels. The Valley MPOs used the newest version of the transportation-modeling platform for the target recommendation and based on preliminary model runs, the 2014 SCS achieves a 13 percent reduction in 2020 and a 15 percent reduction in 2035. CARB staff used the latest model estimates for the target update process.

	<b>2020</b>	<b>2035</b>
Existing Target	-5%	-10%
2014 SCS Anticipated Performance	-13%	-15%
Tulare CAG Target Recommendation	-13% to -14%	-15% to -16%
CARB Staff Recommendation	-13%	-16%

Tulare CAG’s 2014 SCS builds upon the Tulare County Regional Blueprint (Blueprint), adopted in 2009, which encourages more compact growth. The SCS plans to increase the average density of new development by 25 percent. With implementation, Tulare CAG projects an increase in the share of multi-family housing region-wide as well as preservation of agricultural resources. It would improve the existing public transportation system by adding additional transit routes, clean fuel (natural gas) buses, and expanding night and weekend service. It increases the amount of investment in active transportation infrastructure such as new bicycle and pedestrian paths. The SCS also improves access to rural employment centers with plans to quadruple the number of vanpool riders in the region. These strategies, together with transportation system management and trip reduction programs, are projected to reduce per capita passenger vehicle GHG emissions in the region.

Tulare CAG is currently in the process of developing its second SCS for adoption in 2018. This SCS plans to build on the success of the previous plan that focused increased density of future development within existing communities, as envisioned in the 2009 Tulare County Regional Blueprint, supported by infrastructure improvements. Ongoing implementation strategies for the RTP/SCS consist of a combination of planning projects, transit incentive programs, and public information campaigns.

The next RTP/SCS adopted by Tulare CAG that will be subject to the updated SB 375 targets will be adopted in 2022. CARB staff recommends an SB 375 target of 13 percent in 2020 and 16 percent in 2035. This recommendation is the same as the MPO recommendation for 2020 and 2035. Tulare CAG must also report to CARB on actual changes in land use and transportation strategy metrics representing their SCS strategies between 2005 and their plan base year, as well as on the expected increment of progress made from land use and transportation strategy commitments in their next SCS compared to what was included in their latest effective plans as of October 2018. CARB staff based its recommendation on review of analysis submitted by Tulare CAG and CARB staff’s approach of applying a required enhancement to the region’s reductions due to land use and transportation strategies of 2 percent to the four largest Valley MPOs and a 1 percent reduction to the four smaller Valley MPOs by population size.

## C. The Six Remaining Small MPOs

The six remaining small MPOs include the Association of Monterey Bay Area Governments (AMBAG), the Santa Barbara County Association of Governments (Santa Barbara CAG), San Luis Obispo Council of Governments (San Luis Obispo COG), Butte County Association of Governments (Butte CAG), Shasta Regional Transportation Association (Shasta RTA), and the Tahoe Metropolitan Planning Organization (Tahoe MPO). These MPOs collectively represent less than 5 percent of the State's population and associated GHG emissions from light-duty vehicles.

The development patterns in these MPOs can be characterized as semi-rural towns and small cities. The overall rate of growth is expected to be slow compared to the larger MPO regions. The travel patterns in these regions are also unique, particularly for those that are recreation and vacation destinations.

These MPOs have modest targets, some as low as zero and one whose targets allow an increase in per capita GHG emissions relative to 2005. Their targets were largely based on the GHG emissions reductions expected from the RTPs in place at the time of initial target-setting.

All six of these MPOs met or exceeded their targets with SCSs adopted since 2010. All demonstrated that per capita GHG emissions reductions were possible in these regions, despite their comparatively small RTP budgets and rural geography. Each of these MPO regions provided CARB with recommendations for higher SB 375 targets than were established in 2010, and will either exceed or maintain the same level of estimated per capita GHG emissions reductions from their previous SCSs for 2035, as discussed individually below.

### 1. Association of Monterey Bay Area Governments

The AMBAG region is located along the central coast of California, and includes the three counties of San Benito, Santa Cruz, and Monterey. AMBAG proposes per capita GHG emissions reduction targets of 3 percent in 2020 and a 6 percent in 2035 relative to 2005 emissions. AMBAG's original SB 375 targets were a 0 percent reduction in 2020 and a 5 percent reduction in 2035 relative to 2005. AMBAG's first SCS, adopted in June 2014, would, if implemented, achieve a 3.5 percent per capita GHG emission reduction in 2020 and a 5.9 percent reduction in 2035 compared with 2005 levels.

	<b>2020</b>	<b>2035</b>
Existing Target	0%	-5%
2014 SCS Anticipated Performance	-3.5%	-5.9%
AMBAG Target Recommendation	-3%	-6%
CARB Staff Recommendation	-3%	-6%

AMBAG's 2014 SCS encourages new growth in existing communities and near existing commercial corridors, with an emphasis on active transportation, public transit, and safety. With SCS implementation, AMBAG projects a substantial increase in the number of households and jobs within one-half-mile of high quality transit in 2035. The 2014 SCS increases investment in public transit and active transportation by 90 percent compared to the previous plan. These strategies, together with transportation system management, transportation demand management, and trip reduction programs represent AMBAG's approach to reducing transportation-related GHG emissions in the region.

AMBAG is currently in the process of developing its second SCS for adoption in 2018, and has committed to the same level of aggressiveness as its first SCS, despite shortfalls in State funding needed to maintain existing infrastructure and transit service. Two of the three counties (Monterey and Santa Cruz) in the region successfully pursued transportation sales tax measures in November 2016. San Benito County's proposed sales tax measure failed to secure enough votes. Nonetheless, AMBAG is committed to maintaining the same level of estimated per capita GHG emission reductions achieved in its first SCS.

The next MTP/SCS adopted by AMBAG that will be subject to the updated SB 375 targets will be adopted in 2022. CARB staff recommends an SB 375 target of 3 percent in 2020 and 6 percent in 2035, consistent with the targets recommended by AMBAG, which maintains the same level of estimated per capita GHG emissions reductions achieved in their first SCSs.

CARB will also begin working with AMBAG to better understand and isolate the actual changes to land use and transportation strategy commitments in their next SCS when compared with their previous CARB-approved SCS.

## **2. Butte County Association of Governments**

Butte CAG is located in northern California, immediately north of the SACOG region. The Butte County Association of Governments (Butte CAG) region shares the same boundary as Butte County. Butte CAG proposes a per capita GHG emissions reduction target of 7 percent in 2035 relative to 2005 emissions. Butte CAG's original SB 375 targets were a positive one percent in 2020 and 2035 relative to 2005. Butte CAG's first SCS, adopted in December 2012, would, if implemented, achieve a 2 percent per capita GHG emission reduction in 2020 and 2035 compared with 2005 levels.

	<b>2020</b>	<b>2035</b>
Existing Target	+1%	+1%
2012 SCS Anticipated Performance	-2%	-2%
2016 SCS Anticipated Performance	-6%	-7%
Butte CAG Target Recommendation	n/a	-7%
CARB Staff Recommendation	-6%	-7%

CARB recently completed the evaluation for Butte CAG’s second (2016) RTP/SCS. The 2016 RTP/SCS expands on the efforts of the 2012 plan by integrating Butte CAG’s new Long-Range Transit and Non-Motorized Plan and incorporating the latest regional growth forecasts. The 2016 RTP/SCS would continue implementation of the “balanced” land use scenario developed for the 2012 RTP/SCS, except the total amount of growth projected would be slightly lower. In addition, Butte CAG implemented some changes to the travel demand model, including updating socioeconomic data, school enrollment data, and made the model sensitive to the auto operating cost variable. Butte CAG’s target recommendation of 7 percent per capita GHG emissions reduction in the year 2035 is based on their 2016 RTP/SCS.

The next RTP/SCS adopted by Butte CAG that will be subject to the updated SB 375 targets will be adopted in 2020. CARB staff recommends an SB 375 target of 6 percent in 2020 and 7 percent in 2035, consistent with the targets recommended by Butte CAG, which maintains the same level of estimated per capita GHG emissions reductions in their second SCS.

CARB will also begin working with BCAG to better understand and isolate the actual changes to land use and transportation strategy commitments in their next SCS when compared with their previous CARB-approved SCS.

### **3. San Luis Obispo Council of Governments**

San Luis Obispo COG is located along the central coast of California. The San Luis Obispo Council of Governments (San Luis Obispo COG) region shares the same boundary as San Luis Obispo County. San Luis Obispo COG proposes that their current targets be decreased from their current levels of 8 percent in both 2020 and 2035 relative to 2005 emissions. San Luis Obispo COG’s first SCS, adopted in April 2015, would, if implemented, achieve a 9.4 percent per capita GHG emissions reduction in 2020 and 10.9 percent in 2035 compared with 2005 levels.

	<b>2020</b>	<b>2035</b>
Existing Target	-8%	-8%
2015 SCS Anticipated Performance	-9.4%	-10.9%
San Luis Obispo COG Target Recommendation	-2%	-4 to -8%
CARB Staff Recommendation	-3%	-11%

San Luis Obispo COG is in the preliminary stages of developing its 2019 RTP/SCS, and has identified several barriers to implementing their 2015 SCS, including deteriorating or collapsing funding sources needed for key transportation infrastructure investments, and drought conditions that have limited near-term new growth potential due to constrained water supply availability. The region also unsuccessfully pursued a transportation sales tax measure in November 2016. However, there are some new revenue opportunities since the 2015 RTP/SCS was developed with SB 1 and a local general fund sales tax increase that was approved by voters in November 2014.

San Luis Obispo COG staff believes it may be optimistic to maintain a per capita GHG emissions reduction target of 8 percent in both 2020 and 2035, nor maintain the achievement identified in its first SCS. In July 2017, during the comment period on the proposed update to the targets, San Luis Obispo COG submitted a comment letter that supported CARB staff's recommended 11 percent 2035 target, but also recommend considering an 8 percent target for 2035 compared with 2005 levels. They also indicated and had subsequent follow ups with CARB staff on conducting modeling work to better inform their 2020 target. On October 10, 2017, San Luis Obispo COG submitted a summary of initial 2020 modeling assumptions and scenario run results for their upcoming 2019 SCS. Updates to various factors, like population and employment have lowered San Luis Obispo COG's GHG emissions reduction estimates for their 2015 SCS in 2020. In the same submittal, San Luis Obispo COG points out that while initial modeling runs like those done for 2020 are not available for the year 2035, the same obstacles they identify for 2020 will similarly affect what they can achieve in 2035.

The next RTP/SCS adopted by San Luis Obispo COG that will be subject to the updated SB 375 targets will be adopted in 2019. CARB staff recommends an SB 375 target of 3 percent in 2020 and 11 percent in 2035. This recommendation is more in line with what the MPO estimates is achievable for 2020 based on review of San Luis Obispo COG's latest information and is 3 to 6 percentage points higher than the recommendations the MPO has provided for 2035. CARB staff based its recommendation on review of analysis submitted by San Luis Obispo COG, further review of possible strategies the region has the opportunity to and will be able to quantify in the next round, and CARB staff's approach for the six remaining MPOs of maintaining, at minimum, the same level of GHG emissions reductions estimated from their previous SCSs for 2035.

CARB will also begin working with SLOCOG to better understand and isolate the actual changes to land use and transportation strategy commitments in their next SCS when compared with their previous CARB-approved SCS.

#### 4. Santa Barbara County Association of Governments

The Santa Barbara County Association of Governments (Santa Barbara CAG) region shares the same boundary as the County of Santa Barbara, located along the central coast of California. Santa Barbara CAG staff conducted preliminary modeling for the draft 2017 RTP/SCS that is currently under development, which is scheduled for adoption in 2017. Santa Barbara CAG staff presented the per capita GHG emissions reduction performance of the draft scenarios to their Board in June of 2016. Santa Barbara CAG's preferred land use and transportation scenario was estimated to achieve per capita GHG emissions reductions of 13.3 percent in 2020 and 17.7 percent in 2035 relative to 2005 emissions. Santa Barbara CAG's original SB 375 targets were a 0 percent reduction in 2020 and 2035 relative to 2005. Santa Barbara CAG's first SCS, adopted in August 2013, would, if implemented, achieve a 10 percent per capita GHG emission reduction in 2020 and a 15 percent reduction in 2035 compared with 2005 levels.

	<b>2020</b>	<b>2035</b>
Existing Target	0%	0%
2014 SCS Anticipated Performance	-10%	-15%
2017 SCS Anticipated Performance	-13%	-17%
CARB Staff Recommendation	-13%	-17%

CARB recently completed the evaluation for Santa Barbara CAG's second (2017) RTP/SCS, which is based on the same transit-oriented infill strategy as was adopted in its first SCS. Changes from the previous SCS that are being reflected in the modeling, include: changes to the underlying transit routes and frequencies, changes to the constrained transportation project lists, minor changes to land use assumptions and growth allocation, updated inter-regional trip information from SCAG and San Luis Obispo COG staff, and adjustments to U.S. 101's functional classification in Santa Barbara CAG's regional travel demand model. If Santa Barbara CAG continues to implement its preferred scenario with the same level of aggressiveness as in the existing adopted RTP/SCS, the modeling improvements will yield slightly greater per capita GHG emissions reductions.

The next RTP/SCS adopted by Santa Barbara CAG that will be subject to the updated SB 375 targets will be adopted in 2021. CARB staff recommends an SB 375 target of 13 percent in 2020 and 17 percent in 2035, consistent with the MPO's 2017 RTP/SCS percent per capita GHG emissions reduction estimates for 2020 and 2035. CARB staff based its recommendation on review of analysis submitted by Santa Barbara CAG and CARB staff's approach for the six remaining MPOs of maintaining, at minimum, the same level of GHG emissions reductions estimated from their previous SCSs for 2035.

CARB will also begin working with Santa Barbara CAG to better understand and isolate the actual changes to land use and transportation strategy commitments in their next SCS when compared with their previous CARB-approved SCS.

### 5. Shasta Regional Transportation Agency

Shasta RTA is located in northern California, and is not bordered by any other MPO. The Shasta Regional Transportation Agency (Shasta RTA) region shares the same boundary as Shasta County. Shasta RTA proposes a per capita GHG emissions reduction target of 3.5 percent in 2035 relative to 2005 emissions, which was amended from 6 percent. Shasta RTA did not provide a recommendation for a 2020 target. Shasta RTA’s original SB 375 targets were a 0 percent reduction in 2020 and 2035 relative to 2005. Shasta RTA’s first SCS, adopted in June 2015, would, if implemented, achieve 5 percent per capita GHG emissions reduction in 2020 and 0.5 percent reduction in 2035 compared with 2005 levels.

	<b>2020</b>	<b>2035</b>
Existing Target	0%	0%
2015 SCS Anticipated Performance	-4.9%	-0.5%
Shasta RTA Target Recommendation	n/a	-3.5%
CARB Staff Recommendation	-4%	-4%

Shasta RTA’s RTP/SCS plans to increase average residential density on a region-wide basis, improve the existing transportation system by expanding service on existing bus routes, providing more bicycle and pedestrian facilities, and preserving resource areas and farmland. Additional strategies Shasta RTA is pursuing include: deploying local on-demand public transit, inter-city public transit service to Sacramento, technology-enabled mobility and ride sharing services, and expanding public electric vehicle charging infrastructure. Shasta RTA’s target recommendation of 3.5 percent per capita GHG emissions reduction in the year 2035 is based on these strategies.

The next RTP/SCS adopted by Shasta RTA that will be subject to the updated SB 375 targets will be adopted in 2022. CARB staff recommends an SB 375 target of 4 percent in 2020 and 4 percent in 2035. This recommendation is 0.5 percentage points higher than the MPO recommendation for 2035. CARB staff based its recommendation on review of analysis submitted by Shasta RTA, and CARB staff’s expectation that MPOs should, at minimum, maintain the same level of GHG emissions reductions between 2020 and 2035, unless under special circumstances.

CARB will also begin working with Shasta RTA to better understand and isolate the actual changes to land use and transportation strategy commitments in their next SCS when compared with their previous CARB-approved SCS.

## 6. Tahoe Metropolitan Planning Organization

The Tahoe Regional Planning Agency (Tahoe RPA) is a bi-state agency created by congress in 1969 that operates under the bi-state Tahoe Regional Planning Contract between California and Nevada. Tahoe RPA prepares the regional land use plan for the Lake Tahoe region, and also serves as the MPO for the region, which operates as Tahoe Metropolitan Planning Organization (Tahoe MPO). Tahoe RPA and Tahoe MPO are the same body, and unlike the rest of the MPOs in California, retain authority over both land use and transportation planning decisions for the Lake Tahoe region.

The Lake Tahoe region includes the eastern-most portions of Placer and El Dorado Counties located in California, along with the western portions of Washoe, Carson, and Douglas Counties located in Nevada. Tahoe MPO is the smallest MPO of the 18 in California. SB 375 only applies to the California-portion of the Lake Tahoe region.

The Tahoe MPO is bordered by the SACOG region to the west, and receives heavy recreation and visitor travel from both the bay area (MTC) and the SACOG region.

The Tahoe MPO proposes a per capita GHG emissions reduction target of 8.8 percent in 2020 and 5 percent in 2035 relative to 2005 emissions. Tahoe MPO's original SB 375 targets were a 7 percent reduction in 2020 and a 5 percent reduction in 2035 relative to 2005. Tahoe MPO's first SCS, adopted in December 2012, would, if implemented, achieve 12 percent per capita GHG emissions reduction in 2020 and 7 percent reduction in 2035 compared with 2005 levels.

	<b>2020</b>	<b>2035</b>
Existing Target	-7%	-5%
2012 SCS Anticipated Performance	-12%	-7%
2017 SCS Anticipated Performance	-8.8%*	-5%*
Tahoe MPO Target Recommendation	-8.8%	-5%
CARB Staff Recommendation	-8%	-5%

\* Indicates SCS that is adopted but not yet evaluated by CARB.

Tahoe MPO's recommended targets are based on their Draft 2017 RTP/SCS. Tahoe MPO expects very low amounts of new growth and new development over the 20-year Regional Plan and RTP/SCS time horizon because the amount of potential developable land in the Lake Tahoe region is restricted due to environmental constraints. The land use strategy of the Regional Plan and the RTP/SCS is highly incentivized urban infill and redevelopment. The transportation strategy includes a variety of bicycle and pedestrian projects, corridor revitalization projects, the Lake Tahoe Waterborne Transit Project, TDM and ITS projects, parking policy changes, and enhanced inter-regional transit operations.

The next RTP/SCS adopted by Tahoe MPO that will be subject to the updated SB 375 targets will be adopted in 2021. CARB staff recommends an SB 375 target of 8 percent in 2020 and 5 percent in 2035, consistent with the targets recommended by Tahoe MPO, which maintains the same level of estimated per capita GHG emissions reductions estimated to be achieved with their second SCS. CARB staff based its recommendation on review of analysis submitted by Tahoe MPO that reflect updates to their socioeconomic database and forecasts and resident versus visitation travel, and CARB staff's approach for the six remaining MPOs of maintaining, at minimum, the same level of GHG emissions reductions estimated from their previous SCSs for 2035.

CARB will also begin working with Tahoe MPO to better understand and isolate the actual changes to land use and transportation strategy commitments in their next SCS when compared with their previous CARB-approved SCS.