



# SACOG Board of Directors

Meeting Date: December 20, 2018

Agenda Item No. 2018-December-**18**

## 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy: Preferred Scenario Framework

Receive and File

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**Attachments:** Yes

### 1. Issue:

What are the parameters, policies, and constraints that will guide the development of a Preferred Scenario for the 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS)?

### 2. Recommendation:

None. The Transportation Committee used its delegated authority from the board to approve the Preferred Scenario Framework for the 2020 MTP/SCS.

### 3. Background/Analysis:

In December of last year, the board approved a Policy Framework for the 2020 MTP/SCS that outlined the major policy issues to be addressed in the plan. The Policy Framework includes an economic prosperity focus that poses the question: How can the MTP/SCS support an economically prosperous region for all through our planned transportation investments and growth forecast in a time of disruptive change. The Preferred Scenario Framework documents the staff work and board direction from the last year that address the major questions posed by the Policy Framework as well as federal and state requirements for the MTP/SCS. Specifically, the Preferred Scenario Framework describes the board's direction on topics and assumptions that staff needs to create a draft preferred scenario for further board action in April, 2019. Following the April action, staff will work on drafting a final plan and environmental compliance document, conduct final analyses for air quality targets, and engage the board in discussions about implementation policies and actions to support the preferred scenario. The board committees reviewed and offered final direction on a draft of the Preferred Scenario Framework at their November meetings.

### 4. Discussion/Analysis:

The framework in Attachment A and supporting documents capture the discussion and board direction received over the last year on several complex topics. The framework is intended to capture this input with enough detail that it can serve as a reference point for board members, staff, member and partner agencies, and other stakeholders interested in understanding the key topics, considerations, and direction for the 2020 MTP/SCS update. The framework is organized the six topical areas. Under each topic area are a set of policy choices and assumptions phrased as major questions faced by this plan update. Following these questions is a summary of the

initial recommended policy direction from staff and a discussion section that provides additional context on the topic and summarizes board input at prior committee and full board meetings.

Changes to the framework since November reflect comments and further direction from Board committees and are identified with strike-through and underlined text. These changes include adding policy direction to clarify that the preferred scenario will address future transit service, look for opportunities to support access to job centers, integrate findings from the Rural-Urban Connections Strategy, and coordinate assumptions regarding local sources of revenue, such as sales taxes, with local policy actions. The revised framework also summarizes the board discussion and direction from November regarding Topic 5- New Mobility and Topic 6- System Pricing.

While a summary of the recommended policy direction for each topic is described below, more detail exists in the framework itself.

1) Performance Targets –

Create a scenario that achieves the 19 percent per capita greenhouse gas reduction target, pursue a pilot project for GHG reduction with the state, and improve or maintain other performance objectives important to the board as compared to the 2016 plan.

2) Land Use Pattern –

Create a land use forecast that is based on the best available information, prioritizes performance to meet the plan's objectives, supports the regional Blueprint, continues to support both housing choice and strong employment centers, and is reviewed by member agency staff to ensure it is consistent with local planning efforts.

3) Transportation Budget –

Create a reasonable forecast of revenues available to support transportation investments in the plan that is based on the latest information available and considers new or innovative ways to pay for transportation as traditional fuel and sales taxes become less reliable in the future.

4) Investment Priorities –

Create a performance-based preferred scenario project list that emphasizes maintenance and preservation of the existing system, is cost-effective when it comes to system expansion, and supports investments that further the objective of economic prosperity.

5) New Mobility –

Create a preferred scenario that considers new technologies and services like autonomous vehicles, microtransit and ridesharing and looks for ways to enhance any potential benefits from these technologies while managing impacts to the transportation system.

6) System Pricing –

Create a preferred scenario that explores a broad range of system pricing strategies that can replace the current fuel tax with a more sustainable approach, while paying for the upkeep of the transportation system, helping manage traffic congestion and improving system performance.

**5. Fiscal Impact/Grant Information:**

This item does not have any new impact on the agency budget. Staff time and other costs are already included in the Overall Work Program.

**6. This staff report aligns with the following SACOG Work Plan Goals:**

1 - Advance Economic Prosperity

# Preferred Scenario Framework

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This framework for a preferred scenario outlines the major policy decisions needed from the board for developing the 2020 Metropolitan Transportation Plan and Sustainable Communities Strategy (2020 MTP/SCS). More specifically, this framework documents the review, discussion, and input provided by the board on six topical areas critical for the development of the 2020 MTP/SCS including:

- 1) Performance Targets
- 2) Land Use Pattern
- 3) Transportation Budget
- 4) Investment Priorities
- 5) New Mobility & TDM
- 6) System Pricing

The policy direction provided in this framework will result in a preferred scenario that consists of a land use forecast, revenue forecast, transportation investments, and performance outcomes that make up the final plan.

## Furthering economic prosperity through the MTP/SCS

This framework is intended to guide the development of a preferred scenario that meets regulatory requirements and supports the Policy Framework for the 2020 MTP/SCS that was adopted by the board last year. That framework called for the plan to support strategies that make the most of the economic potential and opportunities of the six-county SACOG region. This Preferred Scenario Framework addresses how each of the six topics described below will lead to a preferred scenario that addresses the region's economic prosperity and other objectives, as well as the following key regulatory requirements:

### Regulatory Requirements

**Land Use Forecast:** The land use forecast must include a reasonable economic growth forecast of employment, population, and housing. It must identify the general location of land uses, residential densities and building intensities, and areas within the region sufficient to house the projected future population.

**Financial Constraint:** The MTP/SCS is a financially constrained plan. The financial forecast for the plan is based on the latest trends and information about existing funding sources for transportation. New or innovative funding strategies are an important component of the forecast, but must be backed up by policy commitments or reasonable evidence that support the assumptions included in the plan. In every plan update, there are more transportation investments needed and wanted than funding available to pay for them. SACOG staff must work with local and partner agencies and the board to prioritize the most critical and cost effective investment strategies.

**Air Quality Conformity:** SACOG must demonstrate that implementation of the MTP/SCS will contribute to helping the region meet federal standards for healthy air. This means managing certain pollutants created by transportation including ozone precursors and particulate matter; byproducts of combustion engines and road dust created by moving vehicles. The SACOG region does not currently have air quality that meets healthy standards. Thus, SACOG's conformity analysis must demonstrate improvements in air quality over time. Once healthy air is achieved, the region must maintain that standard over the long term.

Much of the improvement to air quality over time comes from advances in vehicle technology that reduce emissions at the tailpipe. However, the package of system expansion projects in the plan is a factor that can contribute to the region's ability to meet air quality standards by increasing or decreasing vehicle travel. Some expansion projects help improve air quality by reducing congestion or smoothing travel speeds. However, adding significant capacity to the regional road and highway network could result in increased vehicle travel and more tailpipe emissions, particularly early in the plan, before cleaner burning or non-combustion engines become more commonplace. SACOG performs an air quality conformity analysis for each MTP/SCS update, but also as part of amendments to add or remove system capacity through programming activities in the Metropolitan Transportation Improvement Program (MTIP).

**SB375 Greenhouse Gas Reduction Target:** The MTP/SCS must measure the reduction in greenhouse gas emissions via modeling of the forecasted land use pattern and supporting transportation network designed to serve regional transportation needs. The greenhouse gas emissions reduction target for the 2020 MTP/SCS is a 19 percent reduction of per capita emissions by 2035 compared to a 2005 base line. For the 2020 MTP/SCS update, SACOG is working with the California Air Resources Board to develop a pilot project intended to help the region meet its greenhouse gas reduction goals. If the region and the state cannot reach an agreement on a pilot project, the region's greenhouse gas reduction target reduces to 18 percent. Topic #1: Performance Targets Assumptions below includes additional discussion on how a pilot project would affect the region's greenhouse gas reduction target.

## The following policy direction will guide development of the preferred scenario for the 2020 MTP/SCS

### Topic #1: Performance Targets Assumptions

#### Policy Choices & Assumptions:

- The plan will do everything feasible to achieve the 19 percent greenhouse gas reduction target and avoid the need for an additional Alternative Planning Scenario.
- In addition to meeting state and federal requirements, what are the board's performance objectives for the plan and how should SACOG measure the plan's ability to support those objectives?

#### Policy Direction:

- Develop a Sustainable Communities Strategy that achieves the region's greenhouse gas reduction target. Staff should test and discuss strategies and tradeoffs with the board in pursuit of this

objective. An Alternative Planning Strategy will only be considered if the board determines that the necessary measures to achieve the region's greenhouse gas reduction target are infeasible.

- Work with the California Air Resources Board and the other state entities to develop a pilot program supported by legislation and/or financial support to assist the region in meeting its -19 percent per capita greenhouse gas reduction target. If SACOG cannot reach an agreement with the state, the region's greenhouse gas reduction target will reduce to 18 percent per capita.
- The Preferred Scenario must meet interim and horizon year air quality conformity targets consistent with the federal Clean Air Act.
- The Preferred Scenario should maintain or improve performance compared to the current plan including reducing vehicle miles traveled, reducing congestion and unpredictability of travel conditions, improving safety, increasing use of non-vehicle modes of travel, and other metrics included on Attachment B.

**Discussion:**

Senate Bill 375 governs the portion of the state's overall greenhouse gas (GHG) reduction goals related to the combined effects of land use patterns and transportation investments on passenger and light truck vehicle travel. SB 375 is assigned to Metropolitan Planning Organizations (MPOs) like SACOG for implementation. The California Air Resources Board (ARB) is responsible for setting regional GHG reduction targets, approving methodologies used by MPOs for demonstrating reductions, and determining whether regional plans like the MTP/SCS, if implemented, would meet those targets. SACOG's target for GHG reduction is stated as a percentage decrease in per capita GHG, as compared to the 2005 base year.

For the 2020 MTP/SCS, SACOG's GHG target is set as a 19 percent reduction. However, the 19 percent target is conditional on the implementation of a pilot project in the SACOG region supported by additional state funding, flexibility, and other commitments. SACOG has responsibility to develop new, innovative programs in the MTP/SCS that address the specific conditions and challenges in the region relating to GHG emission reductions. If the state funding and other commitments are not secured to support the programs, SACOG's target will be 18 percent.

If the region's MTP/SCS does not meet its 18 or 19 percent greenhouse gas reductions target, SACOG will need to develop an Alternative Planning Scenario (APS) that would describe what additional actions would be needed to achieve the target. The state largely designed SB 375 as an incentive-based statute. Most notably, the bill provides certain California Environmental Quality Act (CEQA) streamlining benefits to land use projects consistent with an SCS, or an APS, if an APS is required. The Delta Reform Act of 2009 also grants some regulatory relief to jurisdictions with plans or projects in the secondary zone of the Delta if those plans and projects are consistent with the SCS or APS. However, as new state funding programs have started to require or prioritize projects that support an SCS, the full implications of adopting an APS are unclear. Staff does not know whether the adoption of an APS would impact future funding, and considers it a significant risk that SACOG's competitiveness for state funding programs would be reduced. Avoiding these risks by achieving the region's GHG reduction targets is a high priority for the board.

In addition to meeting state GHG and air quality targets, the board is interested in understanding the impacts of the preferred scenario on regional metrics. These include, but are not limited to, reducing vehicle miles

traveled, reducing congestion and unpredictability of travel conditions, improving safety, and increasing use of non-vehicle modes of travel. While these metrics are important for supporting the region's economy, other metrics have more specific ties to economic prosperity such as increasing access to job opportunities and educational facilities, especially in low-income and other communities of concern, and preserving the region's prime agricultural and natural resource lands, Attachment B includes a more complete list of regional metrics including comparisons of 2016 baseline, current MTP/SCS, and the 2020 Discussion Scenario performance where available. Staff should report these metrics for the preferred scenario and add others as information and resources allow.

## Topic #2 Land Use Pattern Assumptions

### Policy Choices & Assumptions:

- How much of the new housing growth should be in suburban and urban infill areas (Established Communities and Center & Corridor) and new growth areas (Developing Communities), and rural communities (Rural Residential Communities)?
- How much of the housing growth should be in small lot and attached housing options?
- What are the factors used for forecasting growth into Community Types by jurisdiction?

### Policy Direction:

- Create a land use forecast that is based on the best available information and that prioritizes performance to assist in achieving the GHG reduction target. Specifically, the final land use forecast should assume a minimum of 59 percent of the new housing growth in infill areas, which are made up of Established Communities and Center and Corridor Communities. The scenario could go as high as 70 percent of the new housing in infill, if some of the currently building Developing Communities transition to Established Communities. Recall that the region's Developing Communities are new growth areas that are the next increment of urban expansion. While many of the Developing Communities are not yet building today, some are. As these communities build out, at a certain point they will transition from a Developing Community to an Established Community. There are ten Developing Communities that are potentially approaching this threshold. Staff is working with local agency planners to determine the best fit for these areas. If some, or all, of the ten Developing Communities that are building out today move from being labeled as a Developing Community to an Established Community in the preferred scenario, the housing growth assumed in these areas also shifts from Developing Community to Established Community and would therefore raise the percent of new housing in the Established Communities.
- Create a land use forecast that continues to expand the housing diversity in the region by assuming up to 73 percent of the new homes are single-family small-lot and attached homes. This is consistent with the Discussion Draft Scenario and only a small increase from the current MTP/SCS, which assumes 71 percent of the new homes in these two categories.
- Local planning and public works staff will be given a six-week review period to review and comment on the preferred scenario land use forecast.

**Discussion:**

The plan is required to have a land use forecast. The regional land use forecast is required to be based on the best available information, including local plans and other factors, and to have a reasonable relationship between the expected land use and transportation system.

SACOG's process for creating a land use forecast considers many policy, regulatory, and market factors that can affect the location, type, and rate of development, starting first and foremost with each adopted and proposed land use plan identified and inventoried in consultation with local agency planning staff. This inventory of land use plans forms the basis for allocating housing and employment growth spatially within a jurisdiction. The decision on how much and what kind of housing and employment to allocate is based on an analysis of other policy, regulatory, and market factors. These factors are particularly important in assessing development readiness of specific plans and master plans, which, unless they are under construction, inevitably require some amount of local, state or regional entitlement plus infrastructure improvements to begin construction. The following is a sample list of factors considered in the estimation of growth within subareas of a jurisdiction: status of local, state, and federal entitlement applications, as applicable; past housing permit activity near the project; major infrastructure requirements; developer readiness to pursue entitlement and construction; proximity to job centers and services and/or opportunity to provide reduction in vehicle miles traveled; and housing product mix. These and additional factors are described in detail in Attachment C.

It is worth noting that the land use forecast is not a prescriptive, regulatory element of the MTP/SCS. SACOG has no land use authority and local governments retain their exclusive ability to make land use decisions which are either consistent or not consistent with the plan.

**Topic #3: Transportation Budget Assumptions****Policy Choices & Assumptions:**

- Which revenue sources should be included in the plan?
- What potential new funding sources should the plan consider?

**Policy Direction:**

- Assume any existing federal, state, and local funding sources will continue to support transportation investments in the future.
- Forecasts of future revenue sources derived from fuel taxes should be consistent with statewide assumptions about fuel efficiency, alternative fuel, and electric vehicles.
- Consider the effect of ecommerce on future sales tax-based revenue streams.
- Coordinate with the Placer County Transportation Planning Agency (PCTPA) and Sacramento Transportation Authority (STA) to account for future county-wide sales tax measures to support transportation investments.
- Local sources of funding, such as sales taxes, included in the MTP/SCS should describe how they are prioritized among major budget categories and how those spending priorities align with local policy actions or direction.



- Maintain the modifications to the California fuel tax and vehicle registration fees enacted by Senate Bill 1, the Road Repair and Accountability Act of 2017.
- The plan should explore new revenue options to raise money for transportation investments including road utility charges, tolling, mileage-fees, or other user-pays mechanisms as potential funding sources that could supplement or replace fuel taxes within the 20-year plan horizon.
- Include any funding commitments from the state for the pilot study related to GHG reduction as part of the revenue forecast for the preferred scenario.

#### **Discussion:**

The revenue forecast for the MTP/SCS is based on analysis of existing and potential new funding sources. It examines what risks and opportunities exist that affect the region's ability to capture funding to support the investment needs planned for in the MTP/SCS and must demonstrate that the plan is financially constrained by those revenues that are reasonably available over the 20-year planning horizon of the plan. Accurately forecasting future revenue is extremely challenging, particularly at a time of rapid technology change and uncertainty in local, state, and federal policy and economies. In the near term – four to six years – projections tend to be more specific and frequently based on funding formulas that provide some level of certainty about the level of revenues available. However, as with many of the assumptions in long range planning documents, the uncertainty about funding levels grows as projections move farther into the future.

In discussions about future funding for transportation, the board expressed concern about the impact of potential declines in fuel and sales tax-based funding sources. Current projections at the state and federal level foresee a continued decline in fuel-based revenue sources due to improvements in average fuel economy and decreasing overall fuel consumption. California's Road Repair and Accountability Act of 2017, generally known as SB1, added a 12 cent per gallon fuel tax to the existing state fuel taxes. Additionally, SB1 includes a new registration fee on electric vehicles, and an increase on the general vehicle registration fee based on the assessed value of a vehicle. The additional revenues generated by SB1 will offset much of the potential decrease in fuel based funding sources in the near-term, but will likely not keep pace with decreasing fuel consumption in the long-term. ~~On November 6th, California residents will vote on Proposition 6 that would remove the additional revenues generated by SB1. If the Proposition 6 passes, it will influence the revenues forecast for the Preferred Scenario and require further discussion with the board on the revenue sources included in the plan update.~~

Regarding sales taxes that support transportation investments, there is risk to these revenues in the long-term due to increased online sales and declines in the general retail sector statewide. This is particularly important because online retail sales by businesses that exist outside of California, do not have to collect California sales tax. Another risk to sales tax revenues supporting the plan is the uncertainty of additional ½-cent sales tax measures in Sacramento and Placer Counties. The most recent attempts in 2017 to pass these measures were unsuccessful, despite coming close to achieving the necessary two-thirds approval by voters. SACOG staff will continue to coordinate with the Sacramento Transportation Authority and Placer County Transportation Planning Agency on how best to reflect the potential for these measures in the 2020 plan.

Staff has had several conversations with the board regarding new strategies for funding transportation in the future. The board has suggested staff look at strategies that could capture funding from emerging

technologies and services such as autonomous vehicles and transportation network companies that rely on the public road system, models that treat the roadway system as a utility that spread costs of upkeep across user groups, and identifying major capital projects that could consider tolling or other forms of charging users to help pay for construction and upkeep. The discussion under Topic #5: Pricing explores a few of these options in more detail as they relate to generating revenue and managing demand on the transportation system. Based on input from committees and the board this month, staff will modify this framework and prepare additional information for board consideration beginning with a board workshop at the November board meeting.

## **Topic #4: Investment Priority Assumptions**

### **Policy Choices & Assumptions:**

- How should the plan address growing maintenance and system preservation needs?
- How should the transportation investments align with the land use forecast for the plan?
- What are major priorities for transportation infrastructure and program investments and how should projects be evaluated to satisfy these priorities?

### **Policy Direction:**

- Emphasize system maintenance and preservation as a critical budget priority for the plan by maintaining or increasing the plan's investments in maintenance of the regional transportation system including roads, highways, bridges, bicycle and pedestrian infrastructure, and transit vehicles and facilities.
- Use performance testing, benefit-cost analysis, and other data driven methods to consider the timing and need of new capacity projects that align with the land use forecast.
- Identify and seek to prioritize investments that improve access to jobs and employment centers and/or support economic development.
- Identify projects and strategies to support rural economies in the region using lessons and findings from the Rural-Urban Connections Strategy.
- Support productive and cost-effective future transit service that contributes to performance objectives and provides for the needs of transit-dependent populations.
- Coordinate with city, county, RTPA, transit agency, and Caltrans staff to develop transportation investments for the preferred scenario that consider both regional and local objectives.

### **Discussion:**

The board expressed concerns about the continuing deterioration of the region's roadways and growing transit vehicle and facility needs. The annual funding shortfall for maintenance of the region's local road system over the next ten years is more than \$500 million and will grow as road conditions deteriorate further without near-term investments. To this end, the board is interested in continuing to prioritize maintenance and state of good repair as part of the 2020 plan update. While the MTP/SCS does not directly program or allocate funding for maintenance, the plan can assume that the region will consider system preservation before capacity expansion when making decisions about or supporting future funding streams such as sales taxes, new state and federal programs, or user fees.

In addition to addressing maintenance needs, the plan should prioritize transportation investments that help the region meet performance objectives described under Topic #1: Performance Targets Assumptions. To do this, the plan will prioritize cost-effective and multi-modal transportation investments that support the land use pattern and address changes in forecasted travel demand of the preferred scenario. The plan should include the most efficient and cost-effective transportation system possible to meet the needs of future residents. Further, the plan should consider postponing or modifying investments that address growth and demand that is not likely to occur by 2040 based forecasted population, housing, and employment growth. Because the plan is updated every four years, and can be amended more often if necessary, where planned growth is different from the plan's forecast, changes will be captured through future updates so that the plan is always based on the latest and best data and information.

As part of the plan's emphasis on economic prosperity, the board is interested in identifying and prioritizing transportation investments that create or improve access to jobs, job centers, and economic development opportunities. Staff should coordinate with member and partner agencies to bring information and analysis about how the plan's transportation investments can support economic development and access to jobs. For rural communities in the region, staff should also look for opportunities to integrate the various studies and findings from the Rural-Urban Connections Strategy to identify transportation investments and funding strategies that can meet the infrastructure needs of these areas.

## Topic #5: New Mobility Assumptions

### Policy Choices & Assumptions:

- To what extent should the plan and SCS include the costs, potential benefits, and performance impacts of new mobility options?
- Given the level of uncertainty of deployment and future use of new mobility options, how much should the region rely on new mobility options to achieve performance goals?

### Policy Direction:

- Recognize there is a large margin of uncertainty around future deployment of autonomous vehicles (AVs), but it is probable that AVs will be operating in our region in the future. Assume at least a low level of AV usage by the horizon year and examine some of the potential risks and opportunities of higher levels of AV usage.
- Assume some increased usage of emergent shared mobility options like transportation network companies, bike share, and scooters, where existing use in the Sacramento region is relatively low today. Explore reasonable opportunities to capture the enhanced mobility and efficiencies shared modes can offer.
- Look for opportunities to include any learning or concepts being developed as part of the Next Generation Transit study, other ongoing transit studies like the SacRT Forward project, in the preferred scenario.

- In view of the potential of connected vehicles to, over time, significantly expand the current operational capacity of roadways, the emphasis on phasing and “right-sizing” of major new roadway projects should be increased.
- Strike a balance between leveraging new mobility options and innovations, which also bring with them a high degree of uncertainty and risk, and reliance on more conventional strategies and approaches for achieving MTP/SCS goals and objectives.
- Where possible, base projects and programs included in the preferred scenario on evidence from a locally sponsored pilot or demonstration projects, or borrowed from a successful deployment in a comparable region.
- Be realistic about the potential costs and risks of a broad deployment of a project or program that has only had pilot or demonstration deployment at a very small scale.

**Discussion:**

See Attachment F

Since about 2010, the number of new options people have to travel has multiplied at an unprecedented rate. Uber (founded 2009), Lyft (founded 2012) and other transportation network companies (TNCs) today serve tens of millions of trips each day in the U.S., and up to 40 percent of the population has used them at one time or another. In some markets, like San Francisco, estimates are that 15 percent or more of the intra-city vehicle travel is TNC-related (including both passenger-serving travel and “deadhead” or driver-only travel). Over the same timeframe, many other shared-travel options have emerged and flourished: car-sharing (ZipCar, Car2Go, etc.), bike-sharing (JUMP, Lime, etc.), scooter-sharing (Lime, Bird, etc.). Though many factors account for these changes, the prevalence of the smartphones in the population, and the power of the applications they run, are two important aspects of both the rate and breadth of this change.

There is little evidence that this fast-paced change will end any time soon. Autonomous vehicles (AVs) are the target of billions of dollars in research and development investment, with field tests advancing around the country. Although the ability to purchase and use a fully autonomous vehicle may still be years away, many newer model automobiles include significant autonomous features, and the final step of moving the driver out of the driver’s seat may not be as dramatic as it seems today. The effects AVs may have on people’s travel choices has been the hot topic of speculation recently, but most of the speculation is that AVs, without any other interventions, are most likely to increase the amount of driving and vehicle miles traveled (VMT). An auto traveler who now must focus all their attention on driving could, in an AV, do work, shop, read, facetime with friends or family members, etc. By making time in an auto more productive, many speculate that travelers will be willing to spend more time in an auto than they do now. Additionally, by allowing autos to be re-positioned without a driver, one AV might take one household member to work, then return home to serve another household member. The combination of making auto travel less onerous, and the re-positioning of empty vehicles, underlies the speculation that AVs may induce more VMT.

Though change has been rapid and is likely to continue, the fact is that all this change has not yet hit the Sacramento region in a major way. For example, less than one-half of one percent of all personal travel in the SACOG region is made in TNCs. Use of JUMP bikes in Davis, West Sacramento, and Sacramento are

increasing rapidly, but still amount to several thousand trips per day in a region where over 8 million person trips per day are made. Most of the impact of these new travel modes is in the SACOG region's future, with a lot of uncertainty about how quickly and broadly their impact will be felt.

The MTP/SCS should balance the potential for innovation and mobility enhancement promised by new mobility options, while at the same time identifying areas where public agencies can play a role in either channeling or directing deployment of those options to minimize potential negative outcomes.

## Topic #6: Pricing Assumptions

### Policy Choices & Assumptions:

- To what degree should the region shift from the current options for managing and financing the transportation system, to options including system pricing or pay-as-you-go fees?

### Policy Direction:

- The MTP/SCS should recognize the current fixed fuel-tax approach to funding roadways has structural problems, and ultimately should be replaced with a more financially sustainable approach.
- Test a wide range of pricing concepts and provide information on the positive and negative impacts of the concepts to the board in advance of any endorsement of the preferred scenario. Examples:
  - Explore high occupancy toll lanes to get more benefit from investments in HOV lanes, generate revenues to fund operation costs, and fund transit service.
  - Evaluate tolling of major new capacity projects to offset construction, operation, and maintenance costs of new roadways.
  - Evaluate pay-as-you-go concepts as potential replacements to the fuel tax to better understand impacts on households that have no realistic options but to drive.
- Explore and test peak pricing concepts, like those used for other utilities like electricity or water, to help manage traffic and reduce congestion. Evaluation of these concepts should include the impact on household budgets, especially for lower income households.

### Discussion:

#### See Attachment G

Fuel taxes have been and are the single biggest share of revenues for funding maintenance and development of the transportation system. However, as vehicles have become more fuel efficient, the amount of fuel tax revenue per mile driven has declined significantly. In 1980, a typical light duty vehicle got 15 miles-to-the-gallon (MPG). Today, that same light duty vehicle gets 22 MPG. By 2040, it's expected to increase to nearly 40 MPG. Because of this dynamic, the fuel tax is likely an unsustainable way to raise revenues for transportation in the longer term.

Other regions across the country have developed and implemented innovative ways of using pricing to both help fund transportation infrastructure and to help manage the transportation system. Innovations have included pricing and tolling mechanisms like FastTrak in California and EZPass in the East Coast. Using these more modern tolling mechanisms, high-occupancy-toll (HOT) lanes are in use in dozens of locations, allowing vehicles to make better use of carpool lanes and generating revenues for transportation at the same time. Toll financing of new

roadways is used in many locations, too, including instances where tolls are used to develop other travel options, such as transit, in the same corridor. Additionally, pilot testing of new options for pricing the use of roadways on a pay-as-you-go basis have launched in Oregon as well as in California.

Sacramento remains the largest region in California without any priced or tolled roadways. The MTP/SCS should consider a wide range of options to potentially replace the fuel excise tax over time with a more sustainable option. Additionally, the MTP/SCS should consider options that, in addition to revenue generation, allow for price signals to help to manage the system, similar to peak pricing of electricity or water.

In considering any option to replace the fuel excise tax, the MTP/SCS must consider the potential impacts on people in the region. The plan should consider impacts on households with limited income, or households in areas, such as more rural communities, where above-average amounts of driving is necessary. Additionally, one benefit of the fuel excise tax is that it provides an incentive for households to invest in EVs, since they avoid the fuel tax altogether. The MTP/SCS should consider the potential to diminish this incentive by spreading the cost of maintaining the system to owners of electric vehicles.

Attachment B: Discussion Draft Inputs and Performance Indicators

Performance Metric	2016 Baseline	Adopted 2016 MTP/SCS	2020 MTP/SCS Discussion Draft
<b>Land Use Attributes</b>			
Share of homes in Center & Corridor Communities <sup>1</sup> <i>(percent of homes)</i>	113,557 12%	86,167 30%	73,361 33%
Share of homes in Established Communities <sup>1</sup> <i>(percent of homes)</i>	696,751 76%	78,750 28%	63,187 28%
Share of homes in Developing Communities <sup>1</sup> <i>(percent of homes)</i>	36,545 4%	114,836 40%	84,213 38%
Share of homes in Rural Residential Communities <sup>1</sup> <i>(percent of homes)</i>	72,301 8%	5,143 2%	2,396 1%
Share of homes in rural residential and large-lot single-family <sup>1</sup> homes <i>(percent of homes)</i>	553,334 60%	83,335 29%	57,726 26%
Share of homes in small-lot single-family <sup>1</sup> or attached homes <i>(percent of homes)</i>	367,807 40%	201,566 71%	165,431 74%
Jobs Housing Ratio <i>(within 4 miles of primary and secondary jobs centers)</i> <i>Regional Average = 1.2</i>	TBD	1.26	TBD
<b>Transportation Attributes</b>			
New or Expanded Major Road Lane Miles <sup>2</sup> <i>(percent increase from 2016)</i>	6,500	7,680 18%	7,740 19%
Transit Weekday Service Hours <i>(percent increase from 2016)</i>	4,000	8,400 110%	8,400 110%
Funding for transit (\$ in billions)	n/a	\$10.6	TBD
Percent of transit costs recovered by ticket sales	TBD	38%	TBD
Funding for road, bike and ped maintenance and operations (\$ in billions) <sup>8</sup>	n/a	\$12.60	TBD
Funding for new road capacity (\$ in billions) <sup>8</sup>	n/a	\$5.80	\$6.20
Funding for bike/ped street and trail improvements (\$ in billions) <sup>8</sup>	n/a	\$2.80	TBD
Funding for programs (community design, tdm, etc.) (\$ in billions) <sup>8</sup>	n/a	\$1.70	TBD
Square miles of farmland converted to development <sup>6</sup> <i>(4,158 square miles of farmland in 2012)</i>	n/a	58	43
Square miles of vernal pools affected by development <sup>7</sup>	n/a	6	TBD
Total number of homes near high-frequency transit <sup>3</sup> <i>(share of all homes near high-frequency transit)</i>	TBD	442,915 37%	TBD
Total number of jobs near high-frequency transit <sup>3</sup> <i>(share of all jobs near high-frequency transit)</i>	TBD	631,958 42%	TBD
Jobs within 20-minute drive of residence	TBD	272,7000	TBD

**Attachment B: Discussion Draft Inputs and Performance Indicators**

<b>Performance Metric</b>	<b>2016 Baseline</b>	<b>Adopted 2016 MTP/SCS</b>	<b>2020 MTP/SCS Discussion Draft</b>
(200,100 jobs in 2008)			
Increase in jobs accessible from EJ areas by 30 min drive	n/a	36%	TBD
Increase in jobs accessible from EJ areas by 30 min transit trip	n/a	71%	TBD
Increase access to higher education from EJ areas by 30 min drive	n/a	21%	TBD
Increase access to higher education from EJ areas by 30 min transit trip	n/a	37%	TBD
Vehicle miles traveled to jobs centers (Commute VMT per worker at jobs centers)	TBD	17.1	TBD
Trips by transit, bike or walk to jobs centers (Transit/bike/walk commute tips per worker at jobs center)	TBD	17%	TBD
Mode share for transit, walking and bicycling <sup>5</sup> Percent of all person trips	TBD	13%	TBD
Vehicle miles traveled (VMT) <sup>5</sup> Per capita per day	TBD	17.0	TBD
Percent of total vehicle miles traveled in heavy congestion (6% in 2008)	TBD	6%	TBD
Weekday passenger vehicle CO <sub>2</sub> emissions <sup>9</sup> (percent change per capita from 2005)	n/a	-16%	TBD

<sup>1</sup> Values shown are for growth assumed in the MTP/SCS between 2012-2036, except in 2012 where values are total for 2012.

<sup>2</sup> Values represented are for new or expanded roads in the MTP/SCS between 2012-2036, except for the 2012 scenario where values are total for 2012.

<sup>3</sup> Values represented are total (in 2012 scenario values are total for 2012 and in all other scenarios the value is existing plus new growth).

<sup>4</sup> Except for 2012 acres which represent net acres, for which roads and other public uses have been excluded.

<sup>5</sup> Values for the scenarios were adjusted to account for changes to forecasting model made since the workshop, in order to make the comparable to the current baseline and proposed MTP/SCS results.

<sup>6</sup> A generalized analysis of impacts to farmland was conducted for the scenarios based on all Farmland Monitoring and Mapping Program categories; the same method was applied to the proposed MTP/SCS to allow for comparison.

<sup>7</sup> A generalized analysis of impacts to vernal pools was conducted for the scenarios using Central Valley Vernal Pool Complexes (Holland, 2009); the same method was applied to the proposed MTP/SCS to allow for comparison.

<sup>8</sup> Proposed MTP/SCS budget allocations have been re-calculated to match the same categorical classifications as the workshop alternatives (Alternatives 1, 2, 3).

<sup>9</sup> The greenhouse gas emissions reduction target approved by the CARB for the SACOG region is a 16 percent per capita GHG reduction below 2005 levels by 2035.



## Attachment C: Factors Considered in Updating the MTP/SCS Land Use Forecast

	Regulatory/Policy and Market Factors	Description of projects assumed to have the highest likelihood to build within 20 years	Middle range of conditions	Description of projects assumed to have the lowest likelihood to build within 20 years
REGULATORY	Local Entitlements	Specific Plan approved, Annexation complete (if required), Tentative Map(s) in process	Range of conditions includes: projects that are approved but still need annexation; projects approved but no tentative maps submitted; projects approved but have unsettled lawsuit; projects currently in process; projects in pre-application	No current entitlement activity; identified by general plan or SOI as future growth area
	State/Federal Entitlements	Approved	Range of conditions includes: projects that are not yet approved but in process; projects participating in an HCP or NCCP; projects with no significant resource issues	Significant, unresolved resource issues
POLICY	Air Quality	In SCS with lower VMT than average for Developing Communities	Range of conditions includes: projects that are in the SCS with average VMT; projects in the SCS with higher than average VMT; projects not in the SCS with lower than average VMT; projects not in the SCS with average VMT	Not in SCS with above average VMT for Developing Communities
	Regional Plans and Policies	Consistent with 2012 MTP/SCS and Blueprint	Range of conditions includes: projects in MTP/SCS and partially consistent with Blueprint; projects in MTP/SCS and not consistent with Blueprint; projects consistent with Blueprint and not MTP/SCS; projects partially consistent with Blueprint and not in MTP/SCS	Not consistent with 2012 MTP/SCS or Blueprint
MARKET	Proximity to Job Centers	Close proximity to a regional jobs center	Range of conditions includes: projects partially within 4 miles of a regional job center; projects within 4 miles of a secondary job center; partially within 4 miles of a secondary job center	Significant distance from any job center(s)
	Housing Mix	Mix of housing types including mostly small-lot and attached	Range of conditions includes: projects that have a mix of housing types including small-lot and attached housing at varying amounts; projects that are primarily large-lot residential because they are in more rural areas	All large-lot single-family where higher densities could be supported (i.e more urban or suburban locations)
	Market Area Saturation	Historically high market demand and limited number of approved or pending projects in market area	Range of conditions includes: projects in areas with high market demand and high number of approved or pending projects in market area; projects in areas with average market demand and a high number of approved or pending projects in market area; projects in area with lower market demand and a high number of approved or pending projects in market area, but have a unique factor that could significantly change the market demand for the area	Historically low market demand and a high number of approved or pending projects in market area
	Adjacency	Adjacent to existing urban development or has significant borders with a city boundary or areas designated for future urban development	Range of conditions includes: projects that are adjacent to existing development at varying rates	Less than 10% adjacent with existing urban development, a city boundary or areas designated for future urban development
	Developer Activity	Very active, single ownership or experienced ownership partnerships, multiple completed projects in region	Range of conditions includes: very active to active, single or multiple ownerships with no development history; single or multiple ownerships with varying levels of activity and some projects completed in the region; single or multiple ownerships with varying levels of activity and no history of completed projects in or outside the region	Not active, single or multiple ownership, no completed projects in the region
	Transportation Infrastructure	No major or regional infrastructure needed or infrastructure is fully funded	Range of conditions includes: projects that have some infrastructure, but need more; projects that can build some before significant infrastructure investment is needed; projects that need significant infrastructure and have funding	Significant infrastructure needed and not funded or not yet defined
	Other Infrastructure (sewer, water, flood control, etc)	No major or regional infrastructure needed or infrastructure is fully funded	Range of conditions includes: projects that have some infrastructure, but need more; projects that can build some before significant infrastructure investment is needed; projects that need significant infrastructure and have funding	Significant infrastructure needed and not funded or not yet defined