SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Appendix IV-C

Regional Transportation Strategy and Control Measures

2016 AIR QUALITY MANAGEMENT PLAN

March 2017

FINAL 2016 AQMP

APPENDIX IV-C

Regional Transportation Plan/Sustainable Communities Strategy and Transportation Control Measures

MARCH 2017

MISSION STATEMENT

Under the guidance of the Regional Council and in collaboration with our partners, our mission is to facilitate a forum to develop and foster the realization of regional plans that improve the quality of life for Southern Californians.

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Executive Summary

This Appendix IV-C (Appendix) describes the Southern California Association of Government's (SCAG) Regional Transportation Plan/Sustainable Communities Strategy and Transportation Control Measures (TCMs) to be included as part of the Draft 2016 South Coast Air Quality Management Plan (AQMP) which includes both new and updates to previous ozone and PM2.5 State Implementation Plans (SIPs) for the South Coast Air Basin. This Appendix IV-C is based on SCAG's Final 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) and 2015 Federal Transportation Improvement Program (FTIP) as amended. The RTP/SCS and FTIP were developed in consultation with federal, state and local transportation and air quality planning agencies and other stakeholders. The four County Transportation Commissions (CTCs) in the South Coast Air Basin, namely Los Angeles County Metropolitan Transportation Authority, Riverside County Transportation Commission, Orange County Transportation Authority and the San Bernardino Associated Governments, were actively involved in the development of the regional transportation measures of this Appendix.

This Appendix consists of the following four Sections.

Section I. Introduction

As required by federal and state laws, SCAG is responsible for ensuring that the regional transportation plan, program, and projects are supportive of the goals and objectives of applicable AQMPs/SIPs. SCAG is also required to develop demographic projections and regional transportation strategy and control measures for the South Coast AQMP/SIP.

As the Metropolitan Planning Organization (MPO), SCAG develops the RTP/SCS every four years. The RTP/SCS is a long-range regional transportation plan that provides for the development and integrated management and operation of transportation systems and facilities that will function as an intermodal transportation network for the SCAG region. The RTP/SCS also outlines certain land use growth strategies that provide for more integrated land use and transportation planning, and maximize transportation investments to achieve regional greenhouse gas (GHG) reduction targets set by the California Air Resources Board (CARB) pursuant to SB 375 (codified in California Government Code §65080(b)(2)(B)).

In addition, SCAG develops the biennial FTIP. The FTIP is a list of multimodal capital improvement projects to be implemented over a six year period. The FTIP implements the programs and projects in the RTP/SCS.

Section II. Regional Transportation Plan/Sustainable Communities Strategy and TCMs

The SCAG region faces many critical challenges including demographics, transportation system preservation, transportation funding, goods movement, housing, air quality, climate change, and public health. Under the guidance of the goals and objectives adopted by SCAG's Regional Council, the 2016 RTP/SCS was developed to provide a blueprint to integrate land use and transportation strategies to help achieve a coordinated and balanced regional transportation system. The 2016 RTP/SCS represents the culmination of more than three years of work involving dozens of public agencies, 197 local jurisdictions

in the SCAG region, hundreds of local, county, regional and state officials, the business community, environmental groups, as well as various nonprofit organizations. The 2016 RTP/SCS was adopted by SCAG's main governing board, the Regional Council, on April 7, 2016.

The 2016 RTP/SCS makes a concerted effort to integrate the region's transportation network with land uses in order to achieve an even more sustainable region over the coming decades. Accordingly, the 2016 RTP/SCS includes a host of regional strategies for addressing growth, land use and improving the region's transportation system.

Land Use Strategies

- Focus New Growth around Transit/High Quality Transit Areas (HQTAs)
- Plan for Growth around Livable Corridors
- Provide More Options for Short Trips/Neighborhood Mobility Areas
- Support Zero Emission Vehicles & Expand Electric Vehicle Charging Stations
- Support Local Sustainability Planning
- Protect Natural and Farm Lands
- Balance Growth Distribution between 500-Foot Buffer Areas and HQTAs

Transportation Strategies

- Preserve Our Existing System
- Manage Congestion through Transportation Demand Management (TDM) and Transportation System Management (TSM)
- Expand Regional Transit System
- Expand Passenger Rail and Maintain High-Speed Rail Commitments
- Promote Active Transportation
- Improve Highway and Arterial Capacity
- Strengthen Regional Transportation Network for Goods Movement
- Improve Airport Ground Access

Included within these strategies are SIP-committed transportation programs and projects that reduce vehicle use or change traffic flow or congestion conditions, better known as Transportation Control Measures or "TCMs." In the South Coast Air Basin, TCMs include the following three main categories of transportation improvement projects and programs that have funding programmed for right-of-way and/or construction in the first two years of the 2015 FTIP:

- Transit, Intermodal Transfer, and Active Transportation Measures;
- High Occupancy Vehicle (HOV) Lanes, High Occupancy Toll (HOT) Lanes, and their pricing alternatives; and
- Information-based Transportation Strategies.

The total expenditure for the various strategies in the Final 2016 RTP/SCS is forecasted to be $556.5 billion. The Final RTP/SCS has identified the same amount of total revenues from both existing and several new funding sources that are reasonably expected to be available.

If the future vehicle fleet mix and emission factors are held constant as those in the RTP/SCS base year 2012, the Final 2016 RTP/SCS is estimated to yield a reduction in NOx emissions by about five tons per day (tpd) in 2021, 10 tpd in 2031, and 15 tpd in 2040 compared with their respective Baselines without the RTP/SCS. However, if accounting for mandated future improvement in vehicle fleet mix and emission factors, the estimated NOx reduction from the Final 2016 RTP/SCS is reduced by more than half, because the vehicles as a whole are becoming much cleaner and reduction of every vehicle mile traveled from the RTP/SCS yields less NOx reduction.

Attachment A of Appendix IV-C is a list of transportation control measure projects that are specifically identified and committed to in the Draft 2016 South Coast AQMP/SIPs. Per the CAA, these committed TCMs are required to receive funding priority and be implemented timely. In the event that a committed TCM cannot be delivered or will be significantly delayed, the TCM must be substituted for. It is important to note that as the SCAG's FTIP is updated every two years, new committed TCMs are added to the applicable SIP from the previous FTIP.

Compared with the Baseline alternative, the life-cycle incremental costs of the Final 2016 RTP/SCS are estimated to be about $95 billion while the life-cycle incremental benefits of the Final RTP/SCS are about $190 billion. Most of the benefits (72.3 percent) are from travel time savings, followed by vehicle operating costs savings (19.9 percent), accident cost savings (4.3 percent), and emission reduction cost savings (3.4 percent). Overall, the transportation investments in the Final 2016 RTP/SCS will provide a return of two dollars for every dollar invested.

This Section also contains brief background information on the growth forecasts concept and assumptions in the Final 2016 RTP/SCS including an assessment of uncertainty of SCAG historical population and employment projections.

Section III. Reasonably Available Control Measure Analysis

As required by the Federal Clean Air Act (CAA), a Reasonably Available Control Measure (RACM) analysis must be included as part of the overall control strategy in the ozone and moderate PM2.5 SIPs to ensure that all potential control measures are evaluated for implementation and that justification is provided for those measures that are not implemented. This Appendix IV-C contains the TCM RACM component for the South Coast ozone and PM2.5 control strategy. In accordance with the U.S. Environmental Protection Agency (EPA) procedures, this analysis considers TCMs in the Final 2016 RTP/SCS, measures identified by the CAA, and relevant measures adopted in other ozone and moderate PM2.5 nonattainment areas of the country.

Based on this comprehensive review, it is determined that the TCMs being implemented in the South Coast Air Basin are inclusive of all TCM RACM.

Section IV. TCM Best Available Control Measure (BACM) Analysis for 2006 24-Hour and 2012 Annual PM2.5 NAAQS

The South Coast Air Basin has been reclassified as a Serious nonattainment area under the 2006 PM2.5 NAAQS effective February 12, 2016. In addition, as part of the 2016 South Coast AQMP, South Coast Air Quality Management District (SCAQMD) is requesting a voluntary bump-up reclassification to Serious under the 2012 Annual PM2.5 standard. As a result, the South Coast Air Basin is required to implement BACMs including TCMs for the control of direct PM2.5 and PM2.5 precursors from on-road mobile sources. This section serves as the TCM BACM component for the new South Coast 2006 24-hour and 2012 annual PM2.5 standard SIPs.

Following the applicable U.S. EPA guidance, the TCM BACM analysis consists of a review of the on-going implementation of TCMs in the South Coast Air Basin, a review of TCM measures implemented in other Moderate and Serious PM2.5 nonattainment areas as well as Serious PM10 nonattainment areas throughout the country, and a review of TCMs not implemented in the SCAG region. The analysis demonstrates that the TCM projects being implemented in the South Coast Air Basin constitute TCM BACM.

Section I. Introduction

Federal and State Requirements

The transportation conformity requirements of the Federal CAA establish a need to integrate air quality planning and regional transportation planning. This integration presents the challenge of balancing the real need for improved mobility with the equally important goal of cleaner air. As the federally-designated MPO for the six-county Southern California region, SCAG is required by law to ensure that transportation activities "conform" to, and are supportive of, the goals of regional and state air quality plans to attain the National Ambient Air Quality Standards (NAAQS). In other words, transportation plans, programs, and projects are required to not create new violations, worsen the existing violations, or delay timely attainment of relevant NAAQS.

In addition, SCAG is a co-producer, with the SCAQMD and CARB, of the AQMP for the South Coast Air Basin. SCAG has the responsibility of providing the demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies, as well as analyzing and providing travel activity data related to its planning responsibilities (California Health and Safety Code §40460).

Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Federal Transportation Improvement Program (FTIP)

The SCAG Region is the largest metropolitan planning area in the United States, encompassing 38,000 square miles. The region is divided into 15 subregions and is one of the largest concentrations of population, employment, income, business, industry and finance in the world. The six-county SCAG Region is home to about 19 million people, nearly half of the population of the State of California.

Federal and State regulations require SCAG, as the MPO and Regional Transportation Planning Agency, to develop an RTP/SCS every four years in order for our region's transportation projects to qualify for federal and state funding and approval. The RTP/SCS is updated to reflect changes in trends, progress made on projects, and to adjust the growth forecast for population and employment changes. The long-range RTP/SCS integrates land use and transportation strategies that will achieve CARB greenhouse gas emissions reduction targets and provides a vision for transportation investments throughout the region. Using growth forecasts and economic trends that project out over a period of more than 20 years, the RTP/SCS considers the role of transportation in the broader context of land use, economic, environmental, and quality-of-life goals for the future, identifying regional land use and transportation strategies to address our mobility needs, air quality and climate change challenges.

The RTP/SCS is developed through a collaborative process, guided by SCAG's main governing board, the Regional Council, and its Policy Committees and Sub-committees, the Transportation Working Group, numerous technical advisory committees/working groups/task force, CTCs, subregions, local

governments, state and federal agencies, environmental and business communities, tribal governments, non-profit groups, as well as the general public.

SCAG is also responsible for developing a biennial short-term (six year planning horizon) FTIP. SCAG develops the FTIP in partnership with the CTCs of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, and Caltrans Districts 7, 8, 11, and 12. The FTIP is a multimodal list of capital improvement projects to be implemented over a six-year period. The FTIP identifies specific funding sources and fund amounts for each project. It is prioritized to implement the region's overall strategy for providing mobility and improving both the efficiency and safety of the transportation system, while supporting efforts to attain federal and state air quality standards for the region by reducing transportation related air pollution. The FTIP must include all federally funded transportation projects in the region, as well as all regionally significant transportation projects for which approval from federal funding agencies is required, regardless of funding source. The FTIP is developed to incrementally implement the programs and projects in the RTP/SCS. TCMs that are committed to in the applicable SIP are derived from the first two years of the prevailing FTIP.

Section II. Regional Transportation Plan/Sustainable Communities Strategy and TCMs

Introduction

The Final 2016 RTP/SCS is a long-range regional plan that provides a blueprint to integrate land use and transportation strategies to help achieve greater mobility and sustainable growth. Transportation projects in the SCAG region must be included in the RTP/SCS in order to receive federal funding and approval. The Final 2016 RTP/SCS is comprised of the Executive Summary, nine Chapters and 20 Appendices listed below:

- Chapter 1 Introduction
- Chapter 2 Where We Are Today
- Chapter 3 Challenges in a Changing Region
- Chapter 4 Building a Plan for Our Future
- Chapter 5 The Road to Greater Mobility & Sustainable Growth
- Chapter 6 Paying for the Plan
- Chapter 7 A Plan that Creates Economic Opportunity: The Big Picture
- Chapter 8 Measuring Our Progress for the Future
- Chapter 9 Looking Ahead

- 1) Active Transportation Appendix
- 2) Aviation and Airport Ground Access Appendix

- 3) Congestion Management Appendix
- 4) Demographics and Growth Forecast Appendix
- 5) Economic and Job Creation Analysis Appendix
- 6) Environmental Justice Appendix
- 7) Goods Movement Appendix
- 8) Highways and Arterials Appendix
- 9) Mobility Innovations Appendix
- 10) Natural and Farm Lands Appendix
- 11) Passenger Rail Appendix
- 12) Performance Measures Appendix
- 13) Project List Appendix
- 14) Public Health Appendix
- 15) Public Participation and Consultation Appendix
- 16) Sustainable Communities Strategy (SCS) Background Documentation Appendix
- 17) Transit Appendix
- 18) Transportation Conformity Analysis Appendix
- 19) Transportation Finance Appendix
- 20) Transportation Safety and Security Appendix

The Final 2016 RTP/SCS represents the culmination of more than three years of work involving dozens of public agencies, 197 local jurisdictions in the SCAG region, hundreds of local, county, regional and state officials, the business community, environmental groups, as well as various nonprofit organizations, and was founded on a broad-based public outreach effort. The implementation of a comprehensive and coordinated public participation effort undertaken by SCAG is documented in the Public Participation and Consultation Appendix http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_PublicParticipationConsultation.pdf.

The Final 2016 RTP/SCS was adopted by the SCAG Regional Council on April 7, 2016. The Final 2016 RTP/SCS constitutes the transportation control strategy portion of the Draft 2016 South Coast AQMP. A full, illustrative list of the 2016 RTP/SCS projects can be found in the Project List Appendix http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_ProjectList.pdf.

Key Planning Challenges

Our region is facing many formidable challenges.

Economic and Goods Movement Challenges: Although the region has been steadily recovering from the Great Recession with lowering unemployment and housing foreclosures, and employment levels in the Southern California region are where we were before the Recession in 2007, the region's median household income (adjusted for inflation) has declined as wages have stagnated for a larger population base. This is due to the lack of high income jobs for the median household as well as the inability to access higher paying jobs that are available but require higher education and/or technical skills. An increase in

the number of low-paying jobs, and the resulting lower income, have contributed to more people slipping into poverty.

The smooth and efficient movement of goods is critical to our regional economy, particularly as our region continues to recover from the recession. However, as consumer demand for products continue to increase and the region continues to grow as a major exchange point for global trade, infrastructure for freight traffic will be strained and current efforts to reduce air pollution from goods movement sources will not be sufficient to meet national air quality standards. In addition, capacity at international ports will be over-burdened and warehouse space could fall short of demands.

Demographic Trend Challenges: Though slower than in the past, the overall population will continue to grow and the SCAG region is projected to add nearly four million people by 2040. More people in our region will increase the demands on our already strained transportation system, as well as on available land for development.

The region will experience population aging with an increasing share of senior citizens. A key challenge for the region will be to provide seniors with more transportation options for maintaining their independence as they age. With population aging, the share of people over the age of 65 to people of working age (15 to 64) is expected to increase. This means that our region could face a labor shortage and a subsequent reduction in tax revenues.

Many people in the region will continue to live in suburban neighborhoods and drive alone to work and for other activities. However, a large number of the population including both the Millennials and the Baby Boomers are expected to demand more compact communities and more access to transit. The regional priorities for the overall transportation system and the types of new housing are expected to shift as a result.

Transportation Funding and Infrastructure Preservation Challenges: Of all the challenges facing the transportation system today, there is perhaps none more critical than funding. With the projected growth in population, employment, and demand for travel, the costs of our multimodal transportation needs surpass projected revenues available from our historic transportation funding source - the gas tax. State and federal gas tax rates have not changed in more than 20 years while transportation costs escalate, fuel efficiency improves, and the number of alternative-fuel vehicles continues to grow.

The region's transportation system is becoming increasingly compromised by decades of underinvestment in maintaining and preserving our infrastructure. These investments have not kept up the pace with the demands placed on the system and, as a result, the quality of many of our roads, highways, bridges, transit, bicycle and pedestrian facilities continues to deteriorate. If we continue on our current path of seriously underfunding system preservation, the cost of bringing our system back to a reasonable state of good repair will grow exponentially.

Housing Challenges: Affordable housing throughout Southern California remains a very challenging issue, particularly as the economy continues to recover and grow. Housing prices are rising steadily, and affordability is declining. While residential construction has improved notably since the recession, the production of affordable housing has not kept pace with the demand for it. As our region builds communities that are more compact and more transit-oriented, regional greenhouse gas emissions are anticipated to decline, and residents from a variety of income levels will continue to make housing choices that allow them to use an increasing number of mobility options. Although the overall quality of life will increase for many people, people from low-income communities near new transit infrastructure may face displacement as they are no longer able to afford to live in the area.

Air Quality and Public Health Challenges: While Southern California is a leader in reducing pollutant emissions and the ambient level of air pollution has been improving substantially, the SCAG region, particularly the South Coast Air Basin, continues to have the worst air quality in the nation.

Many people in the region suffer from poor health due to chronic diseases related to poor air quality and physical inactivity. Chronic diseases are responsible for 72 percent of all deaths in our region. Health care costs resulting from being physically inactive, obese and overweight, and asthma cost our region billions of dollars annually in medical expenses, lost life and lost productivity. A challenge facing SCAG to improve public health is the sheer size and diversity of our region. Public health varies widely by geographic location, income and race. There is no one size fits all approach to meeting this complex challenge. It requires flexibility and creativity to ensure that initiatives are effective in both rural and urban areas.

Climate Change Challenges: Climate change has impacted and will continue to impact our region in various ways. Both coastal and inland Southern California are projected to experience many more days of extreme heat, with temperatures exceeding 95 degrees Fahrenheit. This is expected to increase heat-related mortality, lower labor productivity and increase demands for energy. The impacts of climate change are expected to hit hardest those communities that are least equipped to handle them. People who are most vulnerable to extreme heat and air pollution are the elderly and children under the age of five.

Climate change is also expected to impact rain and snowfall – including the amount, frequency and intensity of precipitation across the state – and will have serious long-term impacts on the supply and quality of water in Southern California, as well as how the State manages it.

Regional Goals and Policies

The development of projects, programs, and strategies are guided by the following goals and objectives that help carry out the 2016 RTP/SCS vision for improved mobility, a strong economy and sustainability. The regional goals reflect the wide-ranging challenges facing decision-makers and urban planners in achieving the RTP/SCS vision. The goals demonstrate the need to balance many priorities in the most cost-effective manner. Based on an assessment of the major developments that have occurred and influenced the development of the 2016 RTP/SCS, the goals of the 2016 RTP/SCS remain unchanged from those adopted by the SCAG's Regional Council in the 2012–2035 RTP/SCS.

1. Align the RTP/SCS investments and policies with improving regional economic development and competitiveness.
2. Maximize mobility and accessibility for all people and goods in the region.
3. Ensure travel safety and reliability for all people and goods in the region.
4. Preserve and ensure a sustainable regional transportation system.
5. Maximize the productivity of our transportation system.
6. Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).
7. Actively encourage and create incentives for energy efficiency, where possible.
8. Encourage land use and growth patterns that facilitate transit and active transportation.
9. Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

However, two new guiding policies (Guiding Policies 6 and 7, noted on the next page) have been added to the six adopted 2012–2035 RTP/SCS guiding policies to help better focus future investments on the best-performing projects and strategies that seek to preserve, maintain, and optimize the performance of the existing system in the 2016 RTP/SCS.

1. Transportation investments shall be based on SCAG's adopted regional Performance Indicators.
2. Ensuring safety, adequate maintenance, and efficiency of operations on the existing multimodal transportation system should be the highest RTP/SCS priorities for any incremental funding in the region.
3. RTP/SCS land use and growth strategies in the RTP/SCS will respect local input and advance smart growth initiatives.
4. Transportation demand management (TDM) and active transportation will be focus areas, subject to Policy 1.
5. HOV gap closures that significantly increase transit and rideshare usage will be supported and encouraged, subject to Policy 1.
6. The RTP/SCS will support investments and strategies to reduce non-recurrent congestion and demand for single occupancy vehicle use, by leveraging advanced technologies.
7. The RTP/SCS will encourage transportation investments that result in cleaner air, a better environment, a more efficient transportation system, and sustainable outcomes in the long run.
8. Monitoring progress on all aspects of the Plan, including the timely implementation of projects, programs, and strategies, will be an important and integral component of the Plan.

Integrated Land Use and Transportation Strategies

Integrating strategies for land use and transportation is SCAG's overarching strategy for achieving its goals of regional economic development, maximized mobility and accessibility for all people and goods in our region, safe and reliable travel, a sustainable regional transportation system, a protected natural environment, good health for our residents and more.

The land use strategies included in the Final 2016 RTP/SCS are built on a foundation of contributions from communities and local jurisdictions across the SCAG region. Pursuant to SB 375, as codified in California Government Code §65080(b)(2)(B), an overall land use pattern has been developed that respects local control but also incorporates best practices for achieving State-mandated reductions in greenhouse gas emissions through decreases in per capita vehicle miles traveled (VMT) regionally. The Final 2016 RTP/SCS reflects a continuation of the shift in demographics and household demand since 2012. In 2008, 45 percent of all housing units were multifamily homes. From 2012 through 2040, the RTP/SCS projects that 66 percent of the 1.5 million new homes expected to be built in the SCAG region will be multifamily units, reflecting demographic shifts and anticipated market demand. This will result in an increase of multifamily units in the region to 49 percent of all housing units in the region.

Focus New Growth around Transit/High Quality Transit Areas (HQTAs): The Final 2016 RTP/SCS reinforces the trend of focusing on new housing and employment in the region's HQTAs, areas within one-half mile of a fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes or less during peak commuting hours. HQTAs are a cornerstone of land use planning best practices in the SCAG region because they concentrate on roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs and have the potential to improve public health and housing affordability. The Final 2016 RTP/SCS assumes that 46 percent of new housing and 55 percent of new employment locations developed between 2012 and 2040 will be located within HQTAs, which comprise only three percent of the total land area in the SCAG region.

Plan for Growth around Livable Corridors: The Livable Corridors strategy seeks to revitalize commercial strips through integrated transportation and land use planning that results in increased economic activity and improved mobility options. Livable Corridors strategies include a special emphasis on fostering collaboration between neighboring jurisdictions to encourage better planning for various land uses, corridor branding, roadway improvements and focusing retail into attractive nodes along a corridor. The Livable Corridor strategies integrate the following three different components: transit improvements; active transportation improvements; and land use policies.

Provide More Options for Short Trips/Neighborhood Mobility Areas (NMAs): The Final 2016 RTP/SCS includes land use strategies, Complete Streets integration and a set of State and local policies to encourage the use of active transportation or neighborhood electric vehicles (NEVs) for short trips in NMAs. NMAs have a high intersection density, low to moderate traffic speeds and robust residential retail connections. The land use strategies include shifting retail growth from large centralized retail strip malls to smaller distributed centers throughout an NMA. The strategies associated with this concept are

intended to provide sustainable transportation options for residents of the region who do not have convenient access to high frequency transit options.

Support Zero Emissions Vehicles & Expand Electric Vehicle Charging Stations: As part of the Final 2016 RTP/SCS, SCAG has focused location-based strategies specifically on increasing the efficiency of Plug-in Hybrid Electric Vehicles (PHEVs) in the region. These are electric vehicles that are powered by a gasoline engine when their battery is depleted. The Final 2016 RTP/SCS proposes a regional charging network that will increase the number of PHEV miles driven on electric power, in addition to supporting the growth of the PEV market generally. In many instances these chargers may double the electric range of PHEVs, reducing vehicle miles traveled that produce tail-pipe emissions.

Support Local Sustainability Planning: To implement the SCS, SCAG supports local planning practices that help lead to a reduction of greenhouse gas emissions. Sustainable Planning & Design, Sustainable Zoning Codes and Climate Action Plans are three methods that local agencies have been adopting and implementing to help meet the regional targets for greenhouse gas emission reductions.

Protect Natural and Farm Lands: To coordinate with and support the viability of the Livable Corridors and HQTA land use strategies, the Final 2016 RTP/SCS suggests redirecting growth away from high value habitat areas to existing urbanized areas. SCAG is also engaging numerous stakeholders as it creates a Natural Lands Conservation Plan. The 2012 RTP/SCS has committed to a regional mitigation plan for inclusion in the 2016 RTP/SCS. With that as the foundation, additional steps have been identified for further developing a regional conservation strategy.

Balance Growth Distribution between 500-Foot Buffer Areas and HQTAs: The Final 2016 RTP/SCS recognizes guidance from the 2005 CARB air quality manual, which recommends limiting the siting of sensitive uses within 500 feet of freeways and urban roads carrying more than 100,000 vehicles per day. 500 feet is approximately one-fifth of a HQTA. Less than 10 percent of HQTAs planned in the 2016 RTP/SCS would fall within 500 feet of highways and highly traveled corridors, according to geographic information system (GIS) analyses. While the density is increased in some areas of HQTAs, the growth in the 500-foot buffer areas is similar to local input, thereby balancing the growth distribution.

Supportive of the above land use strategies, the Final 2016 RTP/SCS includes over $550 billion in transportation system investment through 2040 aiming at maximizing and completing our system. All the transportation strategies are tightly integrated with the above land use strategies.

Preserve Our Existing System: About $275 billion, or nearly half of all of the 2016 RTP/SCS proposed expenditures through 2040, is allocated to system preservation and operation. The Final 2016 RTP/SCS system preservation strategies include 1) Protecting and preserving what we have first, supporting a "fix it first" principle; 2) Considering life-cycle costs beyond construction; and 3) Continuing to work with stakeholders to identify and support new sustainable funding sources and/or increased funding levels for system preservation and maintenance.

Manage Congestion through Transportation Demand Management (TDM) and Transportation System Management (TSM): The Final 2016 RTP/SCS has integrated the federally mandated Congestion Management Process (CMP) to improve and optimize the transportation system, to provide for the safe and effective management of the regional transportation system through the use of monitoring and maintenance, demand education, land use, operational management strategies and strategic capacity enhancements.

The Final 2016 RTP/SCS commits $6.9 billion toward TDM strategies throughout the region. These TDM strategies focus on three main areas: 1) Reducing the number of solo-occupancy vehicle (SOV) trips and overall vehicle miles traveled (VMT) through ridesharing and supportive policies for shared ride services; 2) Redistributing or eliminating vehicle trips from peak demand periods through incentives for telecommuting and alternative work schedules; and 3) Reducing the number of SOV trips through the use of other modes of travel.

The Final 2016 RTP/SCS also includes $9.2 billion for TSM improvements, including extensive advanced ramp metering, enhanced incident management, bottleneck removal to improve traffic flow, expansion and integration of the traffic signal synchronization network, data collection to monitor system performance and other Intelligent Transportation System (ITS) improvements. A comprehensive set of TSM strategies have been identified in the Final 2016 RTP/SCS that work in concert to optimize the performance of the transportation system.

Expand Regional Transit System: The Final 2016 RTP/SCS commits $56 billion for capital transit projects, including significant expansion of the Metro subway and light rail transit (LRT) system in Los Angeles County. Meanwhile, new Bus Rapid Transit (BRT) routes will expand higher-speed bus service regionally; new streetcar services will link major destinations in Orange County; and new Metrolink extensions will further connect communities in the Inland Empire. Other extensive improvements are planned for local bus, rapid bus, BRT and express service throughout the region. To make transit a more attractive and viable option, the 2016 RTP/SCS also supports implementing and expanding transit signal priority; regional and inter-county fare agreements and media; increased bicycle carrying capacity on transit and rail vehicles; real-time passenger information systems to allow travelers to make more informed decisions; and implementing first/last mile strategies to extend the effective reach of transit.

Expand Passenger Rail and Maintain High-Speed Rail Commitments: The Final 2016 RTP/SCS calls for an investment in passenger rail of $38.6 billion for capital projects and $15.7 billion for operations and maintenance. The RTP/SCS also calls for maintaining the commitments in the 2012–2035 RTP/SCS, including Phase 1 of the California High-Speed Train system and the High-Speed Train System Memorandum of Understanding (MOU), which identifies a candidate project list to improve the Metrolink system and the LOSSAN rail corridor, thereby providing immediate, near-term benefits to the region while laying the groundwork for future integration with California's High-Speed Train project. These capital projects will bring segments of the regional rail network up to the federally defined speed of 110 miles per hour or greater, and help lead to a blended system of rail services.

Promote Active Transportation: The Final 2016 RTP/SCS includes $12.9 billion for active transportation improvements, including $8.1 billion in capital projects and $4.8 billion as part of the operations and maintenance expenditures on regionally significant local streets and roads. The Final 2016 RTP/SCS plans for continued progress in developing our regional bikeway network, assumes all local active transportation plans will be implemented, and dedicates resources to maintain and repair thousands of miles of dilapidated sidewalks. The Final RTP/SCS also considers new strategies and approaches beyond those proposed in the 2012 RTP/SCS. The 2016 Active Transportation Plan has 11 specific strategies to maximize active transportation in the SCAG region. These are grouped into four broad categories: Regional Trips, Transit Integration, Short Trips and Education/encouragement. All 11 strategies are based on a comprehensive local bikeway and pedestrian network that uses complete streets principles.

Improve Highway and Arterial Capacity: The Final 2016 RTP/SCS calls for investing $54 billion in capital improvements and $103 billion in operations and maintenance of the state highway system and regionally significant local streets and roads throughout the region. This includes focusing on achieving maximum productivity by adding capacity primarily by closing gaps in the system and improving access; and other measures including the deployment of new technology. The RTP/SCS also continues to support a regional network of Express Lanes, building on the success of the State Route 91 Express Lanes in Orange County, as well as Interstate 10 and Interstate 110 Express Lanes in Los Angeles County.

Strengthen Regional Transportation Network for Goods Movement: The Final 2016 RTP/SCS includes $70.7 billion in goods movement strategies. Among these are 1) Regional Clean Freight Corridor System to establish a system of truck-only lanes extending from the San Pedro Bay Ports to downtown Los Angeles along Interstate 710 and connecting to the State Route 60 east-west segment and finally reaching Interstate 15 in San Bernardino County; 2) Truck Bottleneck Relief Strategy to relieve the top 50 truck bottlenecks; 3) Rail Strategy to add mainline tracks for the Burlington Northern Santa Fe (BNSF) San Bernardino and Cajon Subdivisions and the Union Pacific Railroad (UPRR) Alhambra and Mojave Subdivisions; to expand/modernize intermodal facilities; to build highway-rail grade separations; and to improve port area rail infrastructure; and 4) Goods Movement Environmental Strategy to reduce environmental impacts by supporting the deployment of commercially available low-emission trucks and locomotives for the near term; and in the longer term advancing technologies to implement a zero- and near zero-emission freight system.

Improve Airport Access: The Final 2016 RTP/SCS includes strategies for reducing the impact of air passenger trips on ground transportation congestion. Such strategies include supporting the regionalization of air travel demand; continuing to support regional and inter-regional projects that facilitate airport ground access; supporting ongoing local planning efforts by airport operators, county transportation commissions and local jurisdictions; encouraging development and use of transit access to the region's airports; encouraging the use of modes with high average vehicle occupancy; and discouraging the use of modes that require "deadhead" trips to/from airports.

Financial Plan

To accomplish the ambitious goals of the Final 2016 RTP/SCS through 2040, SCAG forecasts expenditures of $556.5 billion. Forecasted revenues comprise both existing and several new funding sources that are reasonably expected to be available for the 2016 RTP/SCS through its horizon year of 2040, which together total $556.5 billion. Reasonably available revenues include short-term adjustments to state and federal gas excise tax rates and the long-term replacement of gas taxes with mileage-based user fees (or equivalent fuel tax adjustment). These and other categories of funding sources were identified as reasonably available on the basis of their potential for revenue generation, historical precedence and the likelihood of their implementation within the time frame of the RTP/SCS. In accordance with federal guidelines, the Final RTP/SCS includes strategies for ensuring the availability of these sources.

Regional Transportation Emissions

Based on the travel activity projections generated from SCAG's Regional Travel Demand Model, an estimate of emissions associated with on-road mobile sources can be generated using CARB's Emission Factor Model (EMFAC). Through this process, future emissions from on-road mobile sources can be compared for the regional transportation system assuming implementation of the RTP/SCS versus the RTP/SCS baseline without RTP/SCS implementation. It is generally understood that potential future improvements in air quality deriving from the RTP/SCS will likely be much smaller, since motor vehicle emissions have and will continue to be substantially reduced through technology (i.e., emission standards for new engines and in-use standards for existing fleets).

Under two different assumptions on future vehicle technology, Tables 1-1 and 1-2 compare VOC (ROG), NOx, and PM2.5 emissions between implementation of the Final 2016 RTP/SCS and the RTP/SCS Baseline excluding RTP/SCS land use and transportation strategies for 2021, 2031, and 2040. Specifically, the emission reduction benefits shown in Table 1-1 are based on the assumption that the EMFAC2014 vehicle fleet mix and emission factors in the future years remain the same as in 2012 (the 2016 RTP/SCS and 2016 AQMP base year); while the emission reduction benefits shown in Table 1-2 factor in the future improvements in the fleet mix and emission factors as reflected in the EMFAC2014.

Note that the RTP/SCS emission reductions in Tables 1-1 and 1-2 are not double-counted toward the emission reductions presented in the main report of the 2016 AQMP because the RTP/SCS is considered in the AQMP air quality modeling baseline.

TABLE 1-1. Regional Transportation Emissions (annual average) (tons per day) * Assuming Constant 2012 Vehicle Fleet Mix and Emission Factors

	VOC (ROG)			NOx			PM2.5 **		
	2021	2031	2040	2021	2031	2040	2021	2031	2040
2016 RTP/SCS	162.7	164.8	165.2	380.5	440.4	495.4	17.1	19.2	20.8
RTP/SCS Baseline	169.2	176.5	180.8	385.9	450.2	510.0	17.4	19.7	21.5
RTP/SCS Reduction	-6.5	-11.7	-15.6	-5.4	-9.8	-14.6	-0.3	-0.5	-0.7

Note: * Calculated with EMFAC2014; ** Does not include fugitive dust calculations

TABLE 1-2. Regional Transportation Emissions (annual average) (tons per day) * Based on Vehicle Fleet Mixes and Emission Factors as Reflected in EMFAC2014

	VOC (ROG)			NOx			PM2.5 **		
	2021	2031	2040	2021	2031	2040	2021	2031	2040
2016 RTP/SCS	71.8	47.0	35.4	135.1	68.9	62.9	10.2	9.9	9.8
RTP/SCS Baseline	74.6	50.3	38.8	137.9	73.4	69.1	10.5	10.5	10.5
RTP/SCS Reduction	-2.8	-3.3	-3.4	-2.8	-4.5	-6.2	-0.3	-0.6	-0.7

Note: * Calculated with EMFAC2014; ** Does not include fugitive dust calculations

Transportation Control Measures (TCMs)

TCMs are measures that are specifically identified and committed to in the applicable SIP that are either one of the types listed in CAA section 108, or any other measures for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Vehicle technology-based, fuel-based, and maintenance-based measures which control the emissions from vehicles under fixed traffic conditions are not TCMs. The committed TCMs identified in this RTP/SCS include the following three main categories of transportation improvement projects and programs:

- Transit, Intermodal Transfer, and Active Transportation Measures;

- High Occupancy Vehicle (HOV) Lanes, High Occupancy Toll (HOT) Lanes, and their pricing alternatives; and
- Information-based Transportation Strategies.

The Final 2016 RTP/SCS includes TCM type projects throughout the entire planning horizon (i.e., 2040) and are all part of the regional transportation strategy for the 2016 South Coast AQMP. Those TCM type projects which have funding programmed for right of way or construction in the first two years of the prevailing FTIP are considered "committed" for air quality planning purposes in the applicable SIP. Attachment A of this Appendix illustrates the currently committed TCMs that are derived from the TCM projects of the 2015 FTIP, as amended. Per the CAA, these committed TCMs are required to receive funding priority and be implemented timely. In the event that a committed TCM cannot be delivered or will be significantly delayed, the TCM must be substituted for. It is important to note that as the SCAG's FTIP is updated every two years, new committed TCMs are added to the applicable SIP mainly from the TCM-type projects in the previous FTIP. As a result of the TCM "rollover process," thousands of committed TCM projects have been implemented over the last two decades. The "rollover" of TCMs updates the AQMPs/SIPs to include new projects in addition to ongoing projects from previous FTIPs. As the FTIP gets adopted every two years, new TCMs emerge and completed TCMs get removed.

TCM Emissions Reduction Benefits To estimate the emission benefits of TCMs, the socio-economic data variables of the Final 2016 RTP/SCS were held constant while the transportation network was modified to account for the TCMs in the RTP/SCS (both TCM-type projects and committed TCMs). In other words, the TCM emissions reduction benefits are the difference between the Final 2016 RTP/SCS which includes TCMs and the Final 2016 RTP/SCS without TCMs. It should be noted that this analysis is done for illustrative purposes, as the regional transportation strategy is appropriately viewed on a systems-level basis, and not by its components since each of the individual transportation improvements and strategies affect each other and the system. Further, it should be noted that the TCM emission reductions in Tables 2-1 and 2-2 are not double-counted toward the emission reductions presented in the main report of the Draft 2016 AQMP because the TCMs are part of the RTP/SCS which is considered in the AQMP air quality modeling baseline.

Compared to previous AQMPs/SIPs, potential future improvements in air quality deriving from TCMs is consistently diminishing for two reasons. On one hand, motor vehicle emissions have and will continue to be substantially reduced through technology. On the other hand, most of the TCM projects in the South Coast Air Basin have been adopted into the SIP and have already been implemented. Thus, the emission reductions associated with these projects are now included in the RTP/SCS baseline emissions and no longer show up in the TCM benefit values.

Under the same two different assumptions on future vehicle technology, Tables 2-1 and 2-2 show the results of the TCM modeling analysis for years 2019, 2021, and 2031. Specifically, the emission reduction benefits shown in Table 2-1 are based on the assumption that the EMFAC2014 vehicle fleet mix and emission factors in the future years remain the same as in 2012 (the 2016 RTP/SCS and 2016 AQMP base year); while the emission reduction benefits shown in Table 2-2 factor in the future improvement in the fleet mix and emission factors as reflected in the EMFAC2014.

**TABLE 2-1. TCM Emissions (annual average) (tons per day) *
Assuming Constant 2012 Vehicle Fleet Mix and Emission Factors**

	VOC (ROG)			NOx			PM2.5 **		
	2019	2021	2031	2019	2021	2031	2019	2021	2031
2016 RTP/SCS	162.8	162.7	164.8	367.9	380.5	440.4	16.6	17.1	19.2
RTP/SCS without TCM	163.2	163.9	165.9	368.4	381.7	441.2	16.6	17.2	19.2
TCM Reduction	-0.4	-1.2	-1.1	-0.5	-1.2	-0.8	0.0	-0.1	0.0

Note: * Calculated with EMFAC2014; ** Does not include fugitive dust calculations

**TABLE 2-2. TCM Emissions (annual average) (tons per day) *
Based on Vehicle Fleet Mixes and Emission Factors as Reflected in EMFAC2014**

	VOC (ROG)			NOx			PM2.5 **		
	2019	2021	2031	2019	2021	2031	2019	2021	2031
2016 RTP/SCS	82.5	71.8	47.0	166.5	135.1	68.9	10.8	10.2	9.9
RTP/SCS without TCM	82.7	72.3	47.3	166.9	135.8	69.6	10.8	10.3	10.0
TCM Reduction	-0.2	-0.5	-0.3	-0.4	-0.7	-0.7	0.0	-0.1	-0.1

Note: * Calculated with EMFAC2014; ** Does not include fugitive dust calculations

Cost-Benefit Analysis

Implementation of the 2016 RTP/SCS will secure a safe, efficient, sustainable and prosperous future for the SCAG region. To demonstrate how effective the RTP/SCS would be toward achieving our regional goals, SCAG conducted a RTP/SCS vs. RTP/SCS Baseline cost-benefit analysis – essentially comparing how the region would perform with and without implementation of the RTP/SCS.

The cost-benefit analysis utilizes the Cal-B/C Model to calculate regional network benefits. It calculates and aggregates scenario benefits after travel impacts are evaluated using a regional travel demand model.

SCAG's regional travel demand model data for the Final 2016 RTP/SCS was summarized in one mile per hour (1-mph) speed bins to facilitate analysis.

The benefit/cost ratio compares the incremental benefits with the incremental costs of multimodal transportation investments. The benefits are divided into the following four categories:

- Savings resulting from reduced travel delay
- Air quality improvements
- Safety improvements
- Reductions in vehicle operating costs

For these categories, the economic values and parameters found in Cal-B/C Model are utilized in conjunction with SCAG's regional travel demand model outputs to estimate the benefits of the Final 2016 RTP/SCS compared with the Baseline alternative. Most of these benefits are a function of changes in VMT and Vehicle Hours Traveled (VHT). To estimate the benefit/cost ratio, the benefits in each category are converted into dollars and added together. These are divided by the total incremental costs of the transportation improvements to produce a ratio. For this analysis, benefits are estimated over the planning period through 2040. This analysis also uses standard economic valuations. Further information on the economic values represented in the Cal-B/C Model can be found at the following:

http://www.dot.ca.gov/hq/tpp/offices/eab/benefit_files/CalBC_Tech_Supplement_Vol3.pdf

Compared with the alternative of not adopting the RTP/SCS, the Final 2016 RTP/SCS would result in significant benefits to our region, not only with respect to mobility and accessibility, but also in the areas of air quality, economic growth and job creation, sustainability and environmental justice. Compared with the Baseline alternative, the life-cycle incremental costs of the Final 2016 RTP/SCS are about $95 billion, while the life-cycle incremental benefits of the Final RTP/SCS are about $190 billion. Most of the benefits (72.3 percent) are from travel time savings, followed by vehicle operating costs savings (19.9 percent), accident cost savings (4.3 percent), and emission reduction cost savings (3.4 percent). In other words, overall, the transportation investments in the Final 2016 RTP/SCS will provide a return of $2.00 for every dollar invested.

- The Final RTP/SCS would result in an eight percent reduction in greenhouse gas emissions per capita by 2020, an 18 percent reduction by 2035 and a 21 percent reduction by 2040 – compared with 2005 levels. This would exceed the State's mandated reductions, which are eight percent by 2020 and 13 percent by 2035, respectively.
- Regional air quality would improve under the RTP/SCS, as cleaner fuels and new vehicle technologies help to significantly reduce many of the pollutants that contribute to smog and other airborne contaminants that may impact public health in the region.
- The combined percentage of work trips made by carpooling, active transportation and public transit would increase by about four percent, with a commensurate reduction in the share of commuters traveling by single occupant vehicle.

- The number of VMT per capita would be reduced by over seven percent and VHT per capita by about 17 percent (for automobiles and light/medium duty trucks) as a result of more location efficient land use patterns and improved transit service.
- Daily travel by transit would increase by nearly one third, as a result of improved transit service and more transit-oriented development patterns.
- The Final RTP/SCS would reduce delay per capita by 39 percent, and heavy duty truck delay on highways by 40 percent. This means we would spend less time sitting in traffic and our goods would move more efficiently.
- About 351,000 additional new jobs would be created annually, due to the region's increased competitiveness and improved economic performance that would result from congestion reduction and improvements in regional amenities as a result of the implementation of the RTP/SCS.
- The 2016 RTP/SCS would reduce the amount of previously undeveloped (greenfield) lands converted to more urbanized use by 23 percent. By conserving open space and other rural lands, the RTP/SCS provides a solid foundation for more sustainable development in the SCAG region.
- The Final RTP/SCS would result in a reduction in our regional obesity rate of 2.5 percent, and a reduction in the share of our population that suffers with high blood pressure by three percent. It would also result in a reduction in the total annual health costs for respiratory disease of more than 13 percent.

For details of the cost-benefit analysis, please refer to 1) Chapter 8: Measuring Our Progress, 2) Economic and Job Creation Analysis Appendix, and 3) Performance Measures Appendix of the Final 2016 RTP/SCS (http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx).

Background Information on Growth Forecasts Concept and Assumptions

SCAG developed a new set of regional growth projections including jobs, population and households for the Final 2016 RTP/SCS. The regional and county projections were completed with the help from a panel of experts consisting of some 20 economists and demographers, and the Center for Continuing Study of the California Economy (CCSCE) helped to lead the process. The new projections extend to 2040 and use a 2012 base year. These regional projections were reviewed and revised with input and comments provided by local jurisdictions and, then further disaggregated to develop small area socioeconomic (population, household, jobs) distributions.

The regional projections are based on assessment of historical trends in the SCAG region competitiveness in terms of job shares by industrial groups with the assumptions and conclusions that:

- The majority of policies and investments in the previous regional plans, including the 2012 RTP/SCS and AQMPs will be successfully implemented to improve air quality and maintain the quality of life in terms of congestion, sustainability, attractiveness and as such the economic competitiveness of the region will be stable relative to the nation and the rest of California.

- Other enabling factors, for example government finance/taxes, education, workforce/labor force training, energy/water resources, sewer, climate, etc. will maintain similar trends in the future and enable the economic and population growth.

For detailed information about the growth forecast assumptions, methodology, and results, please refer to the Demographics & Growth Forecast Appendix of the Final 2016 RTP/SCS (http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_DemographicsGrowthForecast.pdf).

Assessment of Uncertainty of SCAG Historical Population and Employment Projections: Forecast Accuracy and Bias: The forecast error is usually defined as the difference between the population forecast for a particular geographic area in a particular target year and the actual population for the same area and year. Forecast errors are oftentimes measured as mean error (ME), mean absolute error (MAE), mean algebraic percent error (MALPE), mean absolute percent error (MAPE), mean squared error (MSE), root mean squared error (RMSE), root mean squared percent error (RMSPE), etc. MAPE, a measure in which positive and negative values do not offset each other, is one of the most popular error measures. MALPE is a popular measure of the forecast bias, which shows a general tendency to be high or low.

There have been empirical findings on the factors affecting the forecast accuracy. Those factors include projection methodology, population size, population growth rate, length of horizon, length of base period, launch year, etc. It is commonly found that no single method consistently produces more accurate projections than any other, forecast accuracy increases with population size, and forecast accuracy decreases with population growth rate and the length of projection horizon. A forecast bias also occurs when there are consistent differences between actual outcomes and previously generated forecasts.

There is no empirically established range of acceptable forecast errors by level of geography and length of horizon due to a variety of contexts for population projections. Instead the typical MAPEs for population projections by level of geography and length of horizon are proposed by a group of experienced demographers. For a 20-year projection horizon, the State level population projections would be different from the actual population at 12 percent of MAPE, while the County level population projections would be different from the actual population at 24 percent of MAPE.

The SCAG region's population projections are generally found accurate and are within an acceptable range of typical errors. As shown in Table 3, the SCAG region's population projections show 9 percent difference of MAPE than actual population for 20-year projection horizon as a result of comparison of seven series of population projections with actual populations. The 9 percent of MAPE from the SCAG region's population projections for 20-year projection horizon is smaller than 12 percent of a typical MAPE from the State level population projections. It is likely that regular updates of the regional population projections which occur every three or four years contribute to the maintenance of the reasonable forecast errors. The SCAG region's population projections tend to show MALPE of -4 percent for the 20-year projection horizon, which means lower projections than the actual estimate during the same projection horizon.

The SCAG region's employment projections generally show a higher MAPE than population projections, and tend to show MALPE of 5 percent for the 20-year projection horizon, which means higher projections than the actual estimate during the same projection horizon. For additional information regarding the interpretation issues in SCAG forecast evaluation, see the PowerPoint Presentation presented at the May 25, 2016 SCAQMD 2016 AQMP Scientific, Technical & Modeling Peer Review Advisory Group Meeting (STMPR) (http://www.aqmd.gov/docs/default-source/Agendas/STMPR-Advisory-Group/may-2016/socio/2_scagforecasteval.pdf?sfvrsn=2).

TABLE 3. Mean Absolute Percent Error (MAPE) and Mean Algebraic Percent Error (MALPE) of SCAG Region Population and Employment Projections by Length of Horizon (as of 2015)

Accuracy Measure	Variable	Length of Horizon (Years)			
		5-Year	10-Year	15-Year	20-Year
MAPE	Population	3%	6%	8%	9%
	Employment	5%	10%	15%	12%
MALPE	Population	0%	-1%	-3%	-4%
	Employment	-1%	1%	3%	5%
Observations		12	11	10	7

Note:

MAPE = |PEt|/n, PEt = [(Ft – At)/At] × 100, where PE represents the percent error, t the target year, F the population projection, A the actual population, and n the number of areas;

MALPE = PEt/n; The intermediate years' projections were calculated using the compound growth rate.

Sources:

SCAG, SCAG Development Guide - Growth Forecast Selection, Jan. 1974 (SCAG90 adopted in 1972); SCAG, SCAG Development Guide - Growth Forecast Selection, Jan. 1974 (D/E 2a adopted in 1974); SCAG, SCAG-76 Growth Forecast Policy, Jan 1976 (adopted in December 1975); SCAG, SCAG78 Growth Forecast Policy (adopted in January 1979); SCAG, SCAG82 Growth Forecast Policy (adopted in October 1982); SCAG, Growth Management Plan (adopted in February 1989); SCAG, Regional Comprehensive Plan and Guide (adopted in June 1994); SCAG, 1998 RTP Growth Forecast (adopted in April 1998); SCAG, 2001 RTP Growth Forecast (adopted in April 2001); SCAG, 2004 RTP Growth Forecast (adopted in April 2004); SCAG, 2008 RTP Integrated Growth Forecast (adopted in April 2008); SCAG, 2012 RTP Integrated Growth Forecast (adopted in April 2012)

Section III. Reasonably Available Control Measure Analysis

Introduction

Clean Air Act Section 172(c)(1) requires SIPs to provide for the implementation of all reasonably available control measures (RACM) as expeditiously as practicable. Guidance on interpreting RACM requirements in the context of the 1990 Amendments was set forth in the General Preamble (57 FR 13498, 13560) in 1992. In the General Preamble, U.S. EPA interpreted section 172(c)(1) as imposing a duty on States to consider all available control measures and to adopt and implement measures that are reasonably available for implementation in a specific nonattainment area. It also retained an earlier interpretation of RACM that it would not be reasonable to require the implementation of measures that do not advance the date for attainment.

With regard to TCMs, U.S. EPA revised earlier guidance by indicating that it is inappropriate to presume that all Section 108(f)(1)(A) measures of the CAA are available in all nonattainment areas. Instead, States should consider Section 108(f)(1)(A) measures as potential options that are not exhaustive, but indicative of the types of measures that should be considered. In addition, any measure identified as reasonably available during the public comment period should also be considered for implementation. U.S. EPA indicated that States could reject measures as not reasonably available for reasons related to local conditions. States are required to justify why available measures were not considered RACM and not adopted in the SIP.

To meet the RACM requirements articulated in the U.S. EPA guidance described above, this RACM analysis was performed using several steps. First is a description of the process by which SCAG and related transportation agencies in the South Coast Air Basin identify, review, and make enforceable commitments to implement TCMs. Second is the assembly and review of a list of control measures recently implemented in other ozone nonattainment areas. This effort involved a review of measures implemented in California nonattainment areas as well as those located in other states, and the organization of those measures in the 16 categories specified in CAA Section 108(f). The third step is to determine RACM by contrasting the list of candidate measures with measures implemented to date in the South Coast Air Basin, as well as any new TCMs in the current AQMP. The fourth step is to provide a reasoned justification for any of the available measures that have yet to be implemented. These justifications must address criteria described in the above-cited guidance.

SCAG RACM/TCM Development Process

While the SCAG Region has an extensive, systematic TCM development program continually updated through the FTIP process, areas are obligated during SIP preparation to evaluate TCMs and determine whether they qualify as RACM.

The RACM process relies predominantly on the continuous process of updating and adding TCMs in the South Coast Air Basin. The current TCM "Rollover Process" was established for the South Coast Air Basin

to replace a process that developed TCMs each time a SIP was produced with a continuous ongoing TCM process. This process continues to govern the selection and implementation of TCMs today. TCMs are continuously identified and reviewed throughout the transportation planning process. SCAG's ongoing public outreach effort, including an involved interagency input process via the TCWG, helps ensure that the process to identify and review TCMs is robust, inclusive, and comprehensive. Development of TCMs arises from multiple processes and multiple sources, which include CTCs, subregional agencies, task forces, committees, and the public. These funding and scheduling procedures ensure that TCMs are developed, sponsored, and clearly identified throughout the process and implemented on schedule.

Assembly and Review of Candidate RACM

U.S. EPA and related court decisions have maintained that TCMs considered RACM must be measures that 1) advance the attainment date, typically by at least one year and 2) are technologically and economically feasible. Measures must pass both the advance attainment and technical/economic feasibility tests to be deemed RACM.

U.S. EPA guidance documents provide help in identifying the type of measures to be considered. CAA Section 108(f)(1)(A) provides a list of sixteen categories of TCMs that are potential options that should be considered indicative types of control measures:

i. *Programs for improved use of public transit;*
ii. *Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;*
iii. *Employer-based transportation management plans, including incentives;*
iv. *Trip-reduction ordinances;*
v. *Traffic flow improvement programs that achieve emission reductions;*
vi. *Fringe and transportation corridor parking facilities, serving multiple occupancy vehicle programs or transit service;*
vii. *Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration, particularly during periods of peak use;*
viii. *Programs for the provision of all forms of high-occupancy, shared-ride services, such as the pooled use of vans;*
ix. *Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;*
x. *Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;*
xi. *Programs to control extended idling of vehicles;*
xii. *Programs to reduce motor vehicle emissions, consistent with Title II of the Clean Air Act, which are caused by extreme cold start conditions;*

xiii. *Employer-sponsored programs to permit flexible work schedules;*

xiv. *Programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;*

xv. *Programs for new construction and major reconstruction of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation, when economically feasible and in the public interest; and*

xvi. *Programs to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.*

U.S. EPA guidance has emphasized that these sixteen measures are an illustrative, but not exhaustive list. Instead, TCMs need to be evaluated on an area-by-area basis to determine which are reasonably available. In addition to the measures listed above, the 1992 General Preamble of the CAA cite other sources to include TCMs that were a) suggested during public comments (e.g. at workshops, public hearings, in written comments, etc.); b) adopted in other nonattainment areas of the country; and c) specifically identified by the U.S. EPA (i.e., U.S. EPA TCM database, support documents for rulemaking, etc.).[1]

To develop a list of candidate RACM, SCAG performed a comprehensive review of available TCMs in California, as well as in other states. SCAG re-examined the candidate RACM identified during the comprehensive RACM analysis performed for the 2012 AQMP and updated TCMs based on new SIPs implemented since the last RACM analysis. The SIPs reviewed by SCAG included all plans from 1997 8-hour ozone,[2] 1997 Annual PM2.5,[3] and 2006 24-hour PM2.5[4] nonattainment areas. Tables 4 and 5 list these ozone and PM2.5 nonattainment area SIPs that SCAG reviewed for candidate measures as part of this analysis.

Additionally, TCMs were discussed and reviewed at numerous TCWG meetings as part of the 2013 FTIP, 2015 FTIP, 2016 RTP/SCS, and 2016 AQMP. Further, SCAG has an extensive and robust public participation process for the development of the RTP/FTIP through ongoing public meetings, and technical, advisory,

[1] Seitz, John S. (December 2, 1999). Memo from John Seitz: Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas. Available at: http://www.epa.gov/ttn/oarpg/t1/memoranda/revracm.pdf.

[2] EPA's 1997 8-hour ozone standard nonattainment designations are available at *http://www3.epa.gov/airquality/greenbook/gncs.html*.

[3] EPA's 1997 Annual PM2.5 standard nonattainment area designations are available at *http://www3.epa.gov/airquality/greenbook/qnca.html*.

[4] EPA's 2006 24-hour PM2.5 standard nonattainment area designations are available at *http://www3.epa.gov/airquality/greenbook/rnca.html*.

and policy committees. These groups generally meet on a monthly basis and provide explicit opportunities for the public to participate and contribute.

TABLE 4. 8-Hour Ozone Standard Nonattainment Areas Reviewed for RACM

Region	Designation	Applicable SIP
San Joaquin Valley, CA	Extreme	San Joaquin Valley 2007 Ozone Plan
Ventura, CA	Serious	Ventura County Air Quality Management Plan, 2007
Sacramento, CA	Serious	Sacramento Metropolitan Air Quality Management District. Sacramento Regional 8-Hour Ozone Attainment and RFP Plan, 2008
Bay Area, CA	Marginal	Revised San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard, 2001
Washington DC	Moderate	State Implementation Plan for 8-Hour Ozone Standard for the Washington DC-MD-VA Nonattainment Area, 2007
Baltimore, MD	Serious	Baltimore Serious Nonattainment Area 0.08 ppm 8-Hour Ozone Implementation Plan, 2013
Maricopa, AZ	Moderate	MAG Eight-Hour Ozone Resignation Request and Maintenance Plan for the Maricopa Nonattainment Area, February, 2009
Denver-Boulder, CO	Marginal	Denver Metro Area & North Front Range Ozone Action Plan Including Revisions to the State Implementation Plan, 2008
Boston-Manchester, NH	Moderate	Revision to the New Hampshire State Implementation Plan Request for Redesignation of the Boston-Manchester-Portsmouth (SE), NH 8-Hour Ozone (1997 Standard) Nonattainment Area, 2012
Philadelphia-Wilmington, PA	Moderate	State Implementation Plan Revision: Attainment Demonstration and Base Year Inventory Bucks, Chester, Delaware, Montgomery and Philadelphia Counties located in the Philadelphia-Wilmington-Atlantic City, PA-NJ-DE Eight-Hour Ozone Nonattainment Area, 2007
Houston-Galveston, TX	Severe	Houston-Galveston-Brazoria Reasonable Further Progress State Implementation Plan Revision for the1997 Eight-Hour Ozone Standard, 2010
Dallas-Fort Worth, TX	Serious	Dallas-Fort Worth 1997 Eight-Hour Ozone Standard Nonattainment Area Plan, 2011
New York-New Jersey, NY	Moderate	New Jersey Department of Environmental Protection State Implementation Plan (SIP) Revision for the Attainment and Maintenance of Ozone NAAQS, 2007
Pittsburgh-Beaver Valley	Moderate	Final Pittsburgh-Beaver Valley Area Ozone Maintenance Plan And Request For Redesignation As Attainment For Ozone, 2001
Poughkeepsie, NY	Moderate	New York State Implementation Plan For Ozone (8-Hour NAAQs) Attainment Demonstration For Poughkeepsie, NY Area, 2008

TABLE 5. 24-Hour and Annual PM2.5 Nonattainment Areas Reviewed for RACM		
Region	**Designation**	**Applicable SIP**
Fairbanks North Star Borough, AK	Moderate	Alaska Department of Environmental Conservation Amendments to State Air Quality Control Plan Section III.D.5.1-5.14, 2014
Imperial County, CA	Moderate	Imperial County 2013 State Implementation Plan for the 2006 24-hour PM2.5 Moderate Nonattainment Area, 2014
Klamath Falls, OR	Moderate	Klamath Falls Fine Particulate Matter (PM2.5) Attainment Plan, 2012
Logan, UT	Moderate	Utah State Implementation Plan Control Measures for Area and Point Sources, Fine Particulate Matter, PM2.5 SIP for the Logan, UT-ID Nonattainment Area, 2014
Provo, UT	Moderate	Utah State Implementation Plan Control Measures for Area and Point Sources, Fine Particulate Matter, PM2.5 SIP for the Provo, UT Nonattainment Area, 2014
Salt Lake City, UT	Moderate	Utah State Implementation Plan Control Measures for Area and Point Sources, Fine Particulate Matter, PM2.5 SIP for the Salt Lake City, UT Nonattainment Area, 2014
San Joaquin Valley, CA	Moderate/Severe	Plan for the 1997 PM2.5 Standard San Joaquin Valley Unified Air Pollution Control District, 2015. U.S. EPA approval pending.
San Joaquin Valley, CA	Moderate	SJV 2012 PM2.5 Plan
San Francisco Bay Area, CA	Moderate	BAAQMD Final Clean Air Plan, 2010
Sacramento, CA	Moderate	PM2.5 Implementation/Maintenance Plan and Redesignation Request for Sacramento PM2.5 Nonattainment Area, 2013
Oakridge, OR	Moderate	Oakridge Fine Particulate Matter (PM2.5) Attainment Plan Adoption, 2012
Atlanta, GA	Moderate	Georgia's Redesignation Request and Maintenance Plan for the Atlanta Non-attainment Area for 1997 PM2.5 NAAQS
Knoxville, TN	Moderate	Attainment Demonstration Knoxville, Tennessee, Annual PM2.5 Non-attainment Area (Anderson, Blount, Knox, Loudon, and Roane Counties)
St. Louis, MO-IL	Moderate	Supplement/Revision to the Redesignation Demonstration and Maintenance Plan for the Missouri Portion of the St. Louis Nonattainment Area for the 1997 Annual Fine Particulate Matter (PM2.5) National Ambient Air Quality Standard
LA-SCAB, CA	Moderate	Final 2012 Air Quality Management Plan, February 2013
Pittsburgh-Beaver Valley, PA	Moderate	State Implementation Plan Revision: Maintenance Plan and Comprehensive Inventory Pittsburgh-Beaver Valley Nonattainment Area 1997 and 2006 Fine Particulate Matter National Ambient Air Quality Standards
West Central Pinal, AZ	Moderate	Arizona State Implementation Plan Revision West Central Pinal County 2006 PM2.5 Nonattainment Area, 2014. U.S. EPA approval pending.

In summary, SCAG performed the RACM analysis based on information reviewed from the following sources:

- CAA Section 108(f)(1)(A)
- 2012 South Coast AQMP RACM Analysis
- Other nonattainment areas in California
- Other nonattainment areas outside California
- RTP/FTIP Updates
- Interagency Consultation (TCWG)
- Transportation Committee, Energy and Environment Committee, and Active Transportation Working Group meeting materials and input

The candidate measures were reviewed to determine which can be considered RACM. As discussed above, the RACM TCM requirement consists of two core criteria that must be satisfied: 1) TCMs must advance attainment of the air quality standards; and 2) TCMs must be both technically and economically feasible. U.S. EPA has not provided specific definitions on these core criteria, but has preferred to allow flexibility in each region's determination.

In practice, agencies have based their determination of the first criteria on whether a measure or group of measures would help an area achieve attainment one year earlier than in the absence of the measure or group of measures. In other words, TCM implementation must significantly reduce emissions to facilitate attainment of the NAAQS one year earlier than without the TCMs. Considering the magnitude of the emissions reductions necessary to demonstrate attainment in the South Coast Air Basin, the implementation of TCMs is not expected to meet this criterion. Technical feasibility has been determined in terms of local factors, such as environmental impacts, availability of control measures, and ability to achieve the emission reductions. Project cost-effectiveness has been considered a determining factor for economic feasibility.

Determining RACM Measures

For this step of the RACM analysis, SCAG compared the list of measures implemented within the South Coast Air Basin with those implemented in other areas. SCAG then organized measures, including candidate measures and those measures currently implemented in the region, according to the sixteen categories specified in Section 108(f)(1)(A) of the CAA. No formal requirement exists on how to organize TCMs. However, SCAG utilized this organization scheme as a way to highlight those measures that fall within the sixteen CAA categories, which are formally recognized as "TCMs" and subject to CAA and federal conformity requirements. SCAG found a small number of candidate measures that were not currently implemented in the region and not included in the 2012 South Coast AQMP RACM analysis. In addition, a new category titled "Other Measures" was added to the list of measures. This category includes TCMs that do not fall in any of the sixteen Section 108(f) categories. New measures that were in

addition to those reviewed as part of the 2012 RACM analysis were highlighted in bold font as shown in Attachment B.

For this RACM analysis, SCAG also reviewed statewide and South Coast AQMD measures that have been adopted since the last RACM analysis. Although these measures are out of the realm of SCAG's funding authority, they are discussed below for completeness. Statewide mobile source measures are also covered in California RACM analysis completed for the latest ozone and PM2.5 SIP revisions for the South Coast Air Basin. Table 6 shows on-road and off-road TCMs and mobile source measures that were adopted by the CARB and are currently being implemented in the SCAG region.

TABLE 6. Adopted California Transportation Control Measures

Transportation Control Measure	Implementing Agency	Implemented in SCAG Region?
California Diesel Fuel Regulation	CARB	Yes
On-Road Heavy-Duty Diesel Vehicles Regulation	CARB	Yes
California Reformulated Gasoline	CARB	Yes
Advanced Clean Cars (Low Emission Vehicle Standards III)	CARB	Yes
Transportation Refrigeration Unit ATCM	CARB	Yes
School Bus Idling ATCM	CARB	Yes
Fleet Rule for Transit Agencies	CARB	Yes
Drayage Truck Regulation	CARB	Yes
Hybrid Truck and Bus Voucher Incentive Program	CARB	Yes
Clean Vehicle Rebate Project	CARB	Yes
Solid Waste Collection Vehicle Rule	CARB	Yes
Heavy-Duty Vehicle Inspection Program	CARB/BAR	Yes
Periodic Smoke Inspection Program	CARB/BAR	Yes
School Bus Retrofit Program	CARB/SCAQMD	Yes
Goods Movement Program/Proposition 1B	CARB/CTC/SCAQMD	Yes
Portable Diesel Engines ATCM	CARB	Yes
In-Use Off-Road Diesel Equipment Regulation	CARB	Yes
Railyard Emission Reduction and Fuel Use Program	CARB/SCAQMD	Yes
In-Use Off-Road Mobile Agricultural Equipment Regulation	CARB	Yes
Cargo Handling Equipment Regulation	CARB	Yes
Ocean-Going Vessels and Commercial Harborcraft Regulations	CARB	Yes
Airport Ground Support Equipment	CARB/SCAQMD	Yes
Off-Road Large Spark-Ignition Equipment Regulation	CARB	Yes
California Active Transportation Program	CTC	Yes

Reasoned Justification

The fourth step is to provide a reasoned justification for any of the available measures that have yet to be implemented or will not be implemented. In 1999, U.S. EPA issued a memorandum entitled "Guidance on the Reasonably Available Control Measures Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas."[5] In this memorandum, U.S. EPA states that in order to determine whether a State has adopted all RACM necessary for attainment and as expeditiously as practicable, the State must explain why the selected implementation schedule is the earliest schedule based on the circumstances of the area. This indicated that States could reject measures as not reasonably available for reasons related to local conditions. In such cases, States are obligated to provide justification as to why potentially reasonable measures have not been adopted. Valid reasons for rejecting a measure include: it would not advance the attainment date, it is economically infeasible, or it is technologically infeasible.

The complete listing of all candidate measures evaluated for RACM determination is included in Attachment B. A "Measure Number" is assigned for each strategy for ease of discussion (not rank in priority). The "Description" column provides a brief description of the relevant measure in discussion. "Has It Been Implemented?" confirms whether the measure is currently implemented in the SCAG region. The final column "Reasoned Justification for Not Implementing" provides a reasoned justification for those measures that were not considered RACM. SCAG appropriately considered a number of factors that included technical and economic feasibility, enforceability, geographic applicability, and ability to provide emission reductions. Of the TCMs that were deemed candidate measures, none were found to meet the criteria for RACM implementation of advance attainment and technical/economic feasibility.

Conclusion

CAA Section 172(c)(1) requires SIPs to provide for the implementation of all RACM as "expeditiously as practicable." U.S. EPA and related court decisions have maintained that TCMs considered RACM must be measures that 1) advance the attainment date, typically by at least one year and 2) are technologically and economically feasible. Measures must pass both the advance attainment and technical/economic feasibility tests to be deemed RACM.

Based on a comprehensive review of TCM projects in other nonattainment areas or otherwise identified, it is determined that the TCMs being implemented in the South Coast Air Basin are inclusive of all RACM. None of the candidate measures reviewed herein and determined to be infeasible meets the criteria for RACM implementation.

[5] Seitz, John S. (December 2, 1999). *Memo from John Seitz: Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas.* Available at: http://www.epa.gov/ttn/oarpg/t1/memoranda/revracm.pdf

SCAG and the local transportation agencies have in place a comprehensive, formal process for identifying, evaluating, and selecting TCMs. The regular RTP, FTIP, and AQMP/SIP public update processes ensure that TCM identification and implementation is a routine consideration that helps SCAG and the AQMD demonstrate attainment of applicable NAAQS.

Section IV. TCM Best Available Control Measure (BACM) Analysis for 2006 24-Hour and 2012 Annual PM2.5 NAAQS

Introduction

On January 13, 2016, U.S. EPA published in the Federal Register a final rule reclassifying the South Coast Air Basin from a "Moderate" to a "Serious" nonattainment area under the 2006 PM2.5 NAAQS, effective February 12, 2016.[6] In addition, as part of the 2016 South Coast AQMP, SCAQMD is requesting a voluntary bump up reclassification to Serious under the 2012 annual PM2.5 standard. These reclassifications require the area to implement the BACM including TCMs to bring the area into attainment of the 2006 and 2012 PM2.5 standards as expeditiously as practicable.

While there is not a formal U.S. EPA guidance on TCM BACM, U.S. EPA has provided general guidance on the process of identifying measures that constitute BACM for PM2.5 nonattainment areas based on Subpart 1 of Part D of the Clean Air Act. However, the U.S. Court of Appeals upheld a challenge to that interpretation in January 2013, which requested the interpretation to be based on Subpart 4. U.S. EPA responded to that decision in a Federal Register Notice on March 23, 2015, with a proposed rule for implementing fine particulate matter (PM2.5) national ambient air quality standards (NAAQS). The rule was finalized and published in the Federal Register on August 24, 2016. The final rule establishes the following four-step PM2.5 BACM/BACT selection process mirroring the four-step PM10 BACM/BACT selection process for PM10 Serious nonattainment areas:

> *Step 1: Develop a comprehensive inventory of sources and source categories of directly emitted PM2.5 and PM2.5 precursors.*
>
> *Step 2: Identify potential control measures.*
>
> *Step 3: Determine whether an available control measure or technology is technologically feasible.*
>
> *Step 4: Determine whether an available control technology or measure is economically feasible..*[7]

[6] Federal Register, Vol. 81, No. 8, January 13, 2016.

[7] https://www.gpo.gov/fdsys/pkg/FR-2016-08-24/pdf/2016-18768.pdf

U.S. EPA's final PM2.5 rule clarifies that BACM is "Generally Independent" of attainment to reaffirm U.S. EPA's past interpretation of BACM as "those measures that best control sources' emissions without regard to whether such measures are needed for the purposes of attainment of the relevant NAAQS." In other words, "the test for BACM puts a 'greater emphasis on the merits of the measure or technology alone,' rather than on 'flexibility in considering other factors,' in contrast to the approach for determining RACM." BACM "should represent a more stringent and potentially more costly level of control" compared with RACM. U.S. EPA expects the BACM analysis, at least, to examine all measures analyzed in the RACM analysis. In addition, BACM should include control measures "not previously considered RACM for the area, as well as additional measures not previously evaluated in the RACM/RACT analysis." To identify new measures for consideration in a BACM analysis, U.S. EPA recommends evaluation of both existing and potential control measures from a wide range of sources such as other PM nonattainment areas throughout the country as well as summaries of control measures developed by regional planning organizations, state and local air quality consortiums.

Additional guidance on issues to be considered in a TCM BACM demonstration can be found in U.S. EPA's proposed approval of San Joaquin Valley's Serious Area PM2.5 Plan.[8] The issues highlighted in the TCM review provide insight into U.S. EPA's views about TCM BACM requirements under Subpart 4. The U.S. EPA's review of Local Jurisdiction Transportation Control Measures (TCMs) in the submitted San Joaquin Valley SIP notes the on-going implementation of a broad range of TCMs and the Air District's "long history of adopting and then enhancing programs to reduce emissions from on-road vehicles by reducing vehicle miles traveled, vehicle trips and/or congestion." U.S. EPA also highlights the San Joaquin Valley metropolitan planning organizations' (MPOs) efforts to evaluate and prioritize emission reductions in Congestion Mitigation and Air Quality Improvement (CMAQ) scoring criteria. The aggregate funding allocated for TCMs identified in the eight 2015 FTIPs in the San Joaquin Valley area was noted for:

- Improved Transit
- Traffic Flow Improvements
- Park and Ride Lots
- Ridesharing/Trip Reduction Programs
- Bicycle/Pedestrian Facilities

The review concluded with a finding that:

[San Joaquin Valley] 2015 PM2.5 Plan provides for the implementation of BACM … for sources of direct PM2.5 and indirect PM2.5 precursors as expeditiously as practicable, in accordance with CAA sections 189(b))1)(B) and 188 (e).

Based on the U.S. EPA guidance outlined above, the following steps were used to determine BACM for TCMs in the South Coast Air Basin:

1) A review of the on-going implementation of TCMs in the South Coast;

[8] Federal Register, Vol. 81, No. 26, February 9, 2016

2) A review of TCMs implemented in other moderate and serious PM2.5 and serious PM10 nonattainment areas throughout the country;
3) A review of TCM measures that are not implemented in the SCAG region and the justifications for not implementing them; and
4) TCM BACM conclusions.

Review of On-Going Implementation of TCMs in the South Coast Air Basin

In the South Coast Air Basin, TCM projects and programs are defined in the following three main categories per the applicable SIPs as documented in the SCAG's Final 2015 FTIP Guidelines:

- Transit, Intermodal Transfer Facilities, and Non-motorized Transportation Mode Facilities
- High Occupancy Vehicle (HOV) Lanes, High Occupancy Toll (HOT) Lanes, and their pricing alternatives
- Information-based Transportation Strategies

TCM Selection and TCM Rollover Process – TCMs in the South Coast Air Basin are developed[9] through a continuous and exhaustive process. Projects identified as TCMs in the RTP/SCS are tracked as they get programmed in the FTIP. Only projects that have money programmed for right-of-way and/or construction in the first two years of the FTIP are considered TCMs subject to the Clean Air Act timely implementation requirements. Approximately every two years, as the FTIP is updated, additional TCMs will be added to the South Coast AQMPs/SIPs based on the new FTIP and the FTIP Guidelines. The "rollover" of TCMs updates the AQMPs/SIPs to include new projects in addition to ongoing projects from previous FTIPs. The "rollover" is monitored for adherence to the schedule established in the FTIP at the time a project is identified as a committed TCM. The identification of TCMs from the FTIP is agreed upon by both SCAG and the appropriate CTCs. As the FTIP gets adopted every two years, new TCMs emerge and completed TCMs get removed. This rollover process was included in the 1994 SIP and approved by the U.S. EPA. The rollover process has been refined in the FTIP Guidelines adopted with every FTIP. The rollover process has worked remarkably well, and has resulted in hundreds of TCMs being implemented/constructed. Thus, the rollover process produces more than RACM would produce and meets BACM. This ensures that RTP/SCS projects that are potential TCMs will, through the rollover process, eventually become committed TCMs.

[9] *Rollover History: In the 1979 SIP, there were six TCMs adopted, most of which relied on Federal funding allocated or being allocated. However, in 1980, with the change in federal administration, all the federal funds were removed. So in the new 1982 SIP, the 1979 measures were withdrawn, and new measures were adopted and subsequently approved by EPA. However, a lawsuit challenged the 1982 SIP and a court agreed and threw out the 1982 SIP, including the TCMs. The result was the 1979 TCMs were still operative, and until 1994 those TCMs had to be reported on for timely implementation, which took much creativity. New AQMPs were developed and adopted, but lawsuits resulted in EPA having to do a Federal Implementation Plan (FIP). While the FIP was under development, the 1990 CAA amendments were passed. A lawsuit challenged the FIP process as being superseded by the new CAA amendments. However a judge denied the challenge. Congress subsequently removed that FIP.*

As the 1993 SIP was being developed, all the parties desired a process that would be comprehensive and fully funded. Thus the rollover process, with its guaranteed funding in the first two years of the TIP, was agreed upon and included in the SIP that was approved by EPA in 1994

To illustrate the extraordinary past and future impact of the TCM rollover process, Table 7 summarizes the magnitude of major TCM infrastructure in 2012 and 2040, the base and planning horizon years of the 2016 RTP/SCS, respectively, in the SCAG region of which almost all are located within the South Coast Air Basin. For illustrative purposes, the values are interpolated for 2020 which is very close to the attainment year of the 2006 PM2.5 standards under the Serious nonattainment classification. It shows over the 28-year forecast period, high occupancy lane miles will more than double, transit bus operations will increase by more than 140,000 miles, rapid/express bus operations will increase by almost 30,000 miles and transit rail miles and bike lane miles will more than triple.

TABLE 7. Magnitude of Major TCM Infrastructure in SCAG Region 2012–2040

TCM Infrastructure Indicator	Base Year (2012)	Interim Year (2020)	Horizon Year (2040)	2012–2040 Increase	
				#	%
HOV, HOT, and Toll Lanes (lane miles)	1,256	1,543	2,583	1,327	106%
Regular Transit Bus (operation miles[10])	494,422	531,194	635,540	141,118	29%
Bus Rapid and Express Bus (operation miles)	72,537	79,985	102,124	29,587	41%
Transit Rail (operation miles)	33,836	46,961	106,568	72,732	215%
Bikeway (Class 1-4) (miles)	3,913	5,478	12,700	8,787	225%

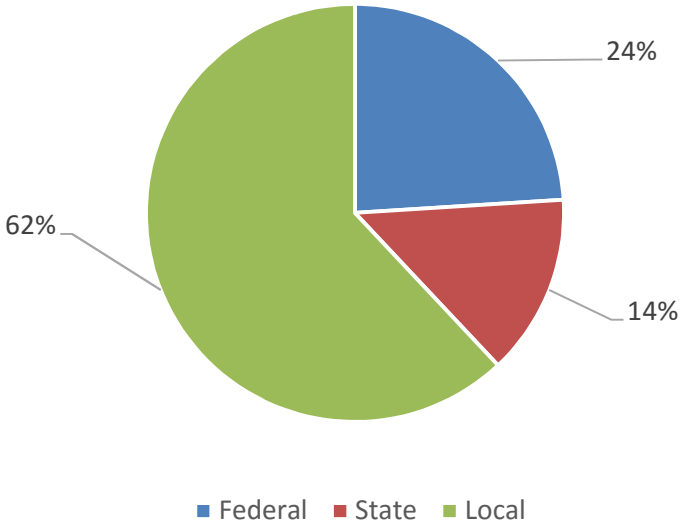
TCM Funding – Funding for TCMs traditionally depended mostly on federal & state sources. But with gas tax revenues declining and both federal and state budgets tightly constrained, local agencies in California asked the state legislature for permission to go to the voters in each county for a ½ percent sales tax for transportation. This required a 2/3 voter approval in each county, and all four counties in the South Coast Air Basin won approval. Extensions were subsequently approved in three counties: Orange County's Measure M sunsets in 2041, Riverside's Measure A sunsets in 2039 and San Bernardino County's Measure I sunsets in 2040; Los Angeles County has approved three ½ percent sales tax measures: Propositions A & C are permanent and Measure R sunsets in 2039.

As a result of these local sales measures, the mix of revenues in the current 2015 FTIP is $19.7 billion local (62 percent), $4.4 billion state (14 percent), and $7.7 billion federal (24 percent) (see Figure 1); while in the recently adopted 2016-2040 RTP/SCS, the mix is $254.7 billion local (71.5 percent) (of which 52 percent is local sales tax), $63.8 billion state (17.9 percent), and $37.7 billion federal (10.6 percent).

[10] A transit route's operations miles or service miles is calculated by the number of transit services during a day times the route length.

These local revenues fund mostly capital expenditures for TCM projects. For example, in the current 2015 FTIP, HOV projects receive $2.8 billion, toll facilities $1.8 billion, transit $7.2 billion, bicycle/pedestrian $396 million, and ITS $226 million; and in the 2016 RTP/SCS, HOV projects receive $15.5 billion, toll facilities $8.4 billion, and transit $56.1 billion. HOV projects being funded include widening of I-5, I-405, I-10, I-215, I-605, SR-110, and SR-91. Transit projects include the Gold Line extension, the Exposition Line extension, the new Crenshaw Line, the East LA extension, the Regional Connector, and the Purple Line subway extension.

Figure 1. Summary of 2015 FTIP by Funding Source



Extraordinary efforts were undertaken to pass sales taxes for transportation in each county (even after some did not reach the 2/3 necessary for approval, all subsequently met the approval threshold) and were successful. The effort to organize and pass these local sales taxes goes well beyond what could have been expected and provides funding for TCMs which could not have been built without these local efforts. These efforts are certainly BACM, not just in revenue raised but without which, none of the major TCMs in transit rail, HOV, etc. could have been financed and constructed.

In summary, SCAG's TCM selection process and commitments satisfy the latest criteria U.S. EPA used to evaluate San Joaquin Valley's Serious PM2.5 TCM BACM commitments. That evaluation focused on three areas of performance:

- Adoption and enhancement of programs that reduce trips, travel and/or congestion – SCAG's rollover process ensures steady TCM infrastructure improvements through 2040 that will provide these reductions.

- Adoption of a standardized program to select cost-effective control measures – SCAG's FTIP Guidelines emphasize requirements for County assessments of control measure cost-effectiveness in TCM development and selection.
- Presentation of FTIP funding commitments – SCAG's County specific sales tax commitments fund more than 50 percent of the capital for TCM projects and the distribution of those funds within the RTP/SCS and FTIP programs is well documented in the SIP.

Another area of performance highlighted in U.S. EPA's draft approval of San Joaquin Valley's Serious Area PM2.5 Plan (not in the assessment of TCMs but for the overall Plan) is public participation in Plan development and approval. SCAG's Public Participation Plan ensures extensive public outreach, open houses, web access, opportunity for comment and public participation in TCM development and selection (http://www.scag.ca.gov/participate/Pages/PublicParticipationPlan.aspx).

Review of TCMs Implemented in Other Moderate and Serious PM2.5 and Serious PM10 Nonattainment Areas

SCAG performed a comprehensive review of available TCMs in California, as well as in other states. The review encompassed SIPs for all Moderate and Serious PM2.5 nonattainment areas and all Serious PM10 nonattainment areas. SCAG also reexamined the RACMs identified in the Section III RACM Analysis and searched the literature to identify new SIPs implemented since the last RACM analysis. A list of the SIPs reviewed is presented in Table 8.

In addition, SCAG's review considered TCMs discussed and reviewed at numerous TCWG meetings as part of the 2015 FTIP, 2016–2040 RTP/SCS,[11] and 2016 AQMP development. Finally, SCAG considered information from the following sources:

- CAA Section 108(f)(1)(A);
- Section III RACM Analysis;
- RTP/FTIP Updates; and
- Interagency Consultation (TCWG).
- Transportation Committee, Energy and Environment Committee, and Active Transportation Working Group meeting materials and input

The review found that no new SIPs had been submitted since the completion of the RACM analysis presented in Section III, which means no new TCMs were identified for consideration from control programs outside of the SCAG region. Similarly, the review found no evidence of new TCMs being discussed in public meetings within the SCAG region.

Given the importance of funding decisions highlighted in the proposed approval of San Joaquin Valley's Serious Area PM2.5 Plan, the SIPs listed in Table 8 were reviewed to identify information on TCM financial

[11] Regional Transportation Plan/Sustainable Communities Strategy

commitments and funding decisions. That review found little information on funding decisions or commitments for specific TCMs in most SIPs. Of the 33 PM nonattainment areas reviewed, only three SIPs include TCM commitments; and only two of the three SIPs include information on funding commitments for TCMs. San Joaquin Valley's plan documented efforts by the eight Valley MPOs to select the most cost effective measures for funding in the FTIP process. It also displayed the funding allocated valley-wide in the 2015 FTIPs for a sample of TCM categories: Improved Transit; High Occupancy Vehicle Lanes; Traffic Flow Improvements; Park and Ride lots; Ridesharing/Trip Reduction Programs; Bicycle/Pedestrian Facilities.

TABLE 8. Moderate and Serious PM2.5 and Serious PM10 Nonattainment Area SIPs Reviewed

Nonattainment Area	Standard and Area Designation				TCMs Included in SIP & Level of Detail
	PM2.5			PM10	
	1997	2006	2012[a]	1987	
Allegheny County, PA			Moderate		N/A
Chico, CA		Moderate			No
Cleveland, OH			Moderate		N/A
Coachella Valley, CA				Serious	No
Delaware County, PA			Moderate		N/A
East Kern Co, CA				Serious	No
Fairbanks, AK		Moderate			Yes, limited activity data but no emissions or funding estimates
Imperial County, CA		Moderate	Moderate		No
Imperial Valley, CA				Serious	No
Klamath Falls, OR		Moderate			No
Knoxville, TN	Moderate				No
Knoxville-Sevierville-La Follette, TN		Moderate			No
Lebanon County, PA			Moderate		N/A
Libby, MT	Moderate				No
Liberty-Clairton, PA	Moderate	Moderate			No, but evaluated under RACM
Logan, UT-ID		Moderate			No
Los Angeles-South Coast Air Basin, CA	Moderate	Serious	Moderate		N/A
Louisville, KY-IN	Moderate				No
Nogales, AZ		Moderate			No
Oakridge, OR		Moderate			No
Owens Valley, CA				Serious	No
Phoenix, AZ				Serious	No

TABLE 8. Moderate and Serious PM2.5 and Serious PM10 Nonattainment Area SIPs Reviewed (CONCLUDED)

Nonattainment Area	Standard and Area Designation				TCMs Included in SIP & Level of Detail
	PM2.5			PM10	
	1997	2006	2012[a]	1987	
Pittsburgh-Beaver Valley, PA		Moderate			No
Plumas County, CA			Moderate		N/A
Provo, UT		Moderate			No
Sacramento, CA		Moderate			No
Salt Lake City, UT		Moderate			No
San Francisco Bay Area, CA		Moderate			Yes, multiple categories, funding data provided in two phases (2012 & 2020)
San Joaquin Valley, CA	Serious	Serious	Moderate		Yes, 2015 funding in several categories
St. Louis, MO-IL	Moderate				No
Washoe Co, NV				Serious	Not in PM SIP (idling reductions in State Mobile Sources SIP)
West Central Pinal, AZ		Moderate			No
West Silver Valley, ID			Moderate		N/A

[a] Area designations for most areas of the United States under the 2012 Annual PM2.5 standards became effective on April 15, 2015. Since areas have five years from designation to prepare a SIP, plans for violation of the 2012 annual PM2.5 standard in these areas have not yet been prepared and submitted to U.S. EPA.

Source: U.S. EPA, http://www3.epa.gov/airquality/greenbook/

San Francisco's Moderate PM2.5 Plan lists the funding commitments for individual TCMs. Funding levels for 2012 and 2020 are presented for improvements in the 17 categories of measures. Examples include: local and area wide bus service; local and regional rail service; freeway and arterial operations strategies; transit efficiency and use strategies; bay area express lane network; voluntary employer based ridesharing; bicycle access and facilities improvements; and parking policies to reduce motor vehicle travel. Overall, funding commitments were provided for over 80 separate measures. Efforts to select the most cost effective measures in the FTIP process were also highlighted.

Because the horizon years are different between the SIP of San Joaquin Valley (the only other Serious nonattainment area under the 2006 PM2.5 standard) and SCAG's RTP/FTIP, a comparison of TCM funding has been done only for the year 2015. The analysis shows that the SCAG region committed nearly nine times as much of TCM funding than San Joaquin Valley ($12.43 billion vs. $1.44 billion). Since the SCAG region is a more densely populated than the San Joaquin Valley region, a per capita comparison is more meaningful. Using that metric, the SCAG region TCM funding commitment is more than double the commitment under the San Joaquin Valley PM2.5 SIP ($762 per capita vs. $332 per capita).

In summary, the review of other Moderate and Serious PM2.5 and Serious PM10 SIPs found that TCM commitments are rarely made in those areas; Compared to the other Serious nonattainment area under the 2006 PM2.5 standard, the South Coast region has committed much greater level of funding for TCMs in terms of total funding and funding per capita.

Review of Candidate Measures Not Implemented in the South Coast Air Basin

SCAG's review identified 24 candidate RACM measures in Attachment B that are not implemented within the SCAG region because of reasoned justifications. Some of the listed measures have the same title, however, while the category title is the same, the methodology used to achieve an emission reduction is different (e.g., traffic flow improvements can impose different speed limits on different facilities within the transportation network). A list of those measures and the justifications for not implementing them are presented in Table 9. These measures are candidates for BACM. To aid in review of the justifications, each measure is categorized by the cause cited for their exclusion including:

- No Authority
- No or Non-quantifiable Emission Reduction Benefits
- Not Feasible
- Not Cost-Effective

Reasoned Justifications for Excluded Measures – SCAG reviewed the RACM exclusion justifications listed for each of the measures listed in Table 9. That review considered the technical and economic feasibility tests that U.S. EPA specified for candidate RACM and BACM measures. Presented below is a review of each of the exclusion categories.

No Authority – SCAG lacks the authority to implement the twelve (12) measures in this category. Lack of authority satisfies the technical infeasibility test for selecting RACM/BACM measures. A review of the SIPs addressing PM2.5 controls showed that lack of authority was commonly cited as a basis for not implementing candidate control measures. These measures do not constitute BACM.

No or Non-quantifiable Emission Reduction Benefits – SCAG's RACM analysis determined that no or non-quantifiable emission benefits would result from the five (5) measures in this category. Since the key determinant of a TCM is the quantified emission benefit, these measures which did not constitute RACM cannot constitute BACM.

Not Feasible – Infeasibility justification for this category was cited for five (5) separate measures. Since these four measures are not feasible, they cannot constitute BACM.

Not Cost-Effective – Not cost-effective justification for this category was cited for two (2) separate measures. Measures that are not cost-effective cannot constitute BACM.

In summary, the 24 candidate RACM measures in Attachment B that are not implemented within the South Coast region are not TCM BACM.

Conclusion

This analysis clearly demonstrates that the TCM projects being implemented in the South Coast Air Basin constitute BACM.

- The South Coast region has been implementing a much more robust TCM selection process, has committed a much greater level of funding for TCMs in terms of total funding and funding per capita, has substantially increased and will continue to dramatically increase the TCM infrastructure than other PM2.5 nonattainment areas.
- No new TCMs were identified for consideration from TCM programs outside of the South Coast region.
- The further evaluation of the exclusion justifications for the 24 measures presented in the RACM analysis re-confirmed that they cannot be implemented because there is no authority to implement, no or non-quantifiable emission reduction benefits, or it is not feasible, or not cost-effective.
- Finally, a review of the FTIP and the continuous TCM reassessment/rollover process demonstrates that SCAG and local transportation agencies conduct a unique, court approved TCM selection process that is unmatched in other PM nonattainment areas. The fact that this program fails to select/fund the listed infeasible measures demonstrates their economic infeasibility and thus exclusion from BACM.

TABLE 9. Candidate TCMs Not Implemented in SCAG RACM Analysis							
Section 108(f) Type	**Section 108(f) Description**	**Measure No.**	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**BACM Exclusion Category**
1	Improved Transit	1.7	Free transit during special events	Require free transit during selected special events to reduce event-related congestion and associated emission increases.	No *(The Mobile Source Air Pollution Reduction Review Committee has been co-funding free event center shuttle service demonstration projects)*	The Legislature significantly reduced authority of SCAQMD to implement indirect source control measures through revisions to the Health & Safety Code (HSC 40717.8). Transit agencies should decide individually whether this measure is economically feasible for them.	No Authority
1	Improved Transit	1.15	Maglev	Construct regional low-speed magnetic levitation transit	No	The region is already being serviced by light rail; Not Cost-effective.	Not Cost-Effective

TABLE 9. Candidate TCMs Not Implemented in SCAG RACM Analysis							
Section 108(f) Type	**Section 108(f) Description**	**Measure No.**	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**BACM Exclusion Category**
3	Employer Transportation Management Plans (TMPs)	3.7	Merchant transportation incentives	Implement "non-work" related trip reduction ordinances requiring merchants to offer customers mode shift travel incentives such as free bus passes and requiring owners/managers/developers of large retail establishments to provide facilities for non-motorized modes.	No	Requires State legislation.	No Authority
3	Employer TMPs	3.12	Income Tax Credit to Telecommuters	Provide tax relief to employees telecommuting.	No	Requires State legislation.	No Authority
5	Traffic Flow Improvements	5.12	Ban left turns	Banning all left turns would stop the creation of bottlenecks although slightly increase travel distances.	No	Left turns are not allowed in some heavy-traffic streets. No clear demonstration of emission reduction benefits.	No or Non-quantifiable Emission Reduction Benefits

TABLE 9. Candidate TCMs Not Implemented in SCAG RACM Analysis							
Section 108(f) Type	**Section 108(f) Description**	**Measure No.**	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**BACM Exclusion Category**
5	Traffic Flow Improvements	5.22	55 mph speed limit during ozone season	Self-explanatory	No	Reductions in freeway speeds are governed by California Vehicle Code 22354, which authorizes Caltrans to lower speeds after doing an engineering and traffic survey, which shows that the legislatively set maximum speed of 65 mph is more than is reasonable or safe. No consideration of emissions is contemplated under this statute. This measure is not feasible until the statute is changed.	No Authority
5	Traffic Flow Improvements	5.23	Require 40 mph speed limit on all facilities	Self-explanatory.	No	California Vehicle Code Sections 22357 and 22358 mandate a methodology for setting speed limits for local areas. This measure is not feasible until the statute is changed.	No Authority

TABLE 9. Candidate TCMs Not Implemented in SCAG RACM Analysis							
Section 108(f) Type	**Section 108(f) Description**	**Measure No.**	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**BACM Exclusion Category**
5	Traffic Flow Improvements	5.24	Require lower speeds during peak periods	Self-explanatory.	No	California Vehicle Code Sections 22357 and 22358 mandate methodology for setting speed limits for local areas. This measure is not feasible until the statute is changed.	No Authority
7	Vehicle Use Restrictions	7.4	Adjust school hours so they do not coincide with peak traffic periods and ozone seasons	Measure to reduce travel during peak periods and ozone-contributing periods in the early morning.	No	School hours are dictated by many variables, including overcrowding and year-round schooling. This measure is not technically feasible.	Not Feasible
7	Vehicle Use Restrictions	7.6	Increase parking fees	Reduce driving by limiting parking through pricing measures.	No	Attorney General ruled SCAQMD lacks authority to implement this measure.	No Authority

TABLE 9. Candidate TCMs Not Implemented in SCAG RACM Analysis							
Section 108(f) Type	**Section 108(f) Description**	**Measure No.**	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**BACM Exclusion Category**
7	Vehicle Use Restrictions	7.9	Limit the number of parking spaces at commercial airlines to support mass transit	Reduce airport travel by limits on parking at airports.	No	Regulatory agencies do not have the legal authority to make local land use decisions. It is at the discretion of the regional or local airport authority to make local land use decisions pertaining to airports. Additionally, it is necessary to have significant mass transit available at airports before this measure can be implemented.	No Authority
7	Vehicle Use Restrictions	7.10	No Central Business District (CBD) vehicles unless LEV or alt fuel or electric	Define high-use area and ticket any vehicles present unless they are low-emitting, alternative-fueled or electric.	No	The Legislature significantly reduced authority to implement Indirect Source Control Measures through revisions to the Health & Safety Code (40717.6, 40717.8, and 40717.9).	No Authority
7	Vehicle Use Restrictions	7.14	Cash incentives to foster jobs/housing balance	Specific to locality – encouraged by California Clean Air Plan.	No	No dedicated source of funding for this measure.	Not Feasible

TABLE 9. Candidate TCMs Not Implemented in SCAG RACM Analysis							
Section 108(f) Type	**Section 108(f) Description**	**Measure No.**	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**BACM Exclusion Category**
9	Non-Motorized Road Use	9.6	Free bikes	Provide free bikes in the manner of Boulder, CO. Simple utilitarian bikes that can be used throughout the metro area and dropped off at destination for use by anyone desiring use.	No	Bike share is being implemented in the South Coast region; free bikes are not cost-effective; In addition, evidence suggests that bicycle theft is a problem in other programs.	Not Cost-Effective
9	Non-Motorized Road Use	9.9	Use condemned dirt roads for bike trails	Self-explanatory.	No	Not applicable because there are no condemned dirt roads in the region.	Not Feasible
11	Extended Idle Control Programs	11.1	Limit excessive car dealership vehicle starts	Require car dealers to limit the starting of vehicles for sale on their lot(s) to once every two weeks. Presently, a number of new and used car dealers start their vehicles daily to avoid battery failure and assure smooth start-ups for customer test drives.	No	This measure was investigated by the SCAQMD and it was determined that, in contrast to colder climates where vehicles are started on a daily basis, vehicles in the South Coast are started much less frequently. No clear demonstration of emission reduction benefits.	No or Non-quantifiable Emission Reduction Benefits

TABLE 9. Candidate TCMs Not Implemented in SCAG RACM Analysis							
Section 108(f) Type	**Section 108(f) Description**	**Measure No.**	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**BACM Exclusion Category**
11	Extended Idle Control Programs	11.3	Turn off engines while stalled in traffic	Public outreach or police-enforced program.	No	This measure raises safety and congestion concerns. No clear demonstration of emission reduction benefits.	No or Non-quantifiable Emission Reduction Benefits
11	Extended Idle Control Programs	11.4	Outlaw idling in parking lots	Self-explanatory and police-enforced program.	No	No clear demonstration of emission reduction benefits.	Not or Non-quantifiable Emission Reduction Benefits
11	Extended Idle Control Programs	11.5	Reduce idling at drive-throughs; ban drive-throughs	Mandate no idling or do not allow drive-through windows during ozone season.	No	No clear demonstration of emission reduction benefits.	No or Non-quantifiable Emission Reduction Benefits
14	SOV Reduction Programs	14.9	Increase State gas tax	Self-explanatory.	No	Need State legislation.	No Authority
14	SOV Reduction Programs	14.10	Pay-As-You-Drive Insurance	Self-explanatory.	No	Need State legislation. No clear demonstration of emission reduction benefits and does not advance attainment date.	No Authority

TABLE 9. Candidate TCMs Not Implemented in SCAG RACM Analysis							
Section 108(f) Type	**Section 108(f) Description**	**Measure No.**	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**BACM Exclusion Category**
16	Voluntary Scrappage Programs	16.3	Demolish impounded vehicles that are high emitters	Self-explanatory.	No	SCAQMD Rule 1610 issues mobile source emission reduction credits in exchange for the scrapping of old, high emitting vehicles. No clear demonstration of emission reduction benefits due to small number of impounded old vehicles.	No or Non-quantifiable Emission Reduction
16	Voluntary Scrappage Programs	16.4	Do whatever is necessary to allow cities to remove the engines of high emitting vehicles (pre-1980) that are abandoned and to be auctioned	Self-explanatory.	No	SCAQMD Rule 1610 issues mobile source emission reduction credits in exchange for the scrapping of old, high emitting vehicles. No clear demonstration of emission reduction benefits due to small number of abandoned or auctioned old vehicles.	No or Non-quantifiable Emission Reduction

TABLE 9. Candidate TCMs Not Implemented in SCAG RACM Analysis							
Section 108(f) Type	**Section 108(f) Description**	**Measure No.**	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**BACM Exclusion Category**
17	Other	17.2	Promote business closures on high ozone days	Non-employer-based strategy to require local business to close on bad air quality days, thereby reducing travel.	No	No authority to implement; not economically feasible	No Authority

Attachment A: Committed Transportation Control Measures (TCMs)

Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
AZUSA	LAF5309	CITY OF AZUSA TRAFFIC MANAGEMENT SYSTEM. THIS PROJECT WILL UPGRADE TRAFFIC SIGNALS AT 43 INTERSECTIONS IN THE CITY OF AZUSA. THE PROJECT WILL FUND THE DESIGN AND CONSTRUCTION/IMPLEMENTATION OF CONTROLLERS, WIRING, DETECTION, CONDUIT, FIBER OPTIC, COUNTDOWN PEDESTRIAN HEADS, SIGNALS, VIDEO DETECTION, CCTV CAMERAS AND TRAFFIC CONTROL AND MONITORING UPGRADES AT THE 43 INTERSECTIONS.	12/1/2017
BALDWIN PARK	LA0G1140	COMPLETE STREET IMPROVEMENTS ALONG MAINE AVE. FROM LOS ANGELES ST. TO ARROW HWY. IMPROVEMENTS INVOLVE THE RECONFIGURATION OF THE CORRIDOR BY MEANS OF ROAD DIET. PROJECT COMPONENTS INCLUDE (1) CLASS II BIKE WAYS (2) ROAD DIET FROM 4 TRAVEL LANES TO 2 LANES (3) SHARE LEFT TURN LANES (4) CURB EXTENSION AT 13 INTERSECTIONS (5) SIDEWALK EXTENSION (6) HIGH VISIBILITY CROSSWALKS (7) REPLACING PED SIGNALS AT 5 INTERSECTIONS (8) PED LIGHTING AND (9) ADA IMPROVEMENTS	10/1/2018
BALDWIN PARK	LA0G1178	EXPANSION OF THE CITY'S CIRCULATOR SHUTTLE TO CONNECT TO BUSINESS AND MEDICAL COMMUTERS FROM THE BALDWIN PARK TRANSIT CENTER AND METROLINK STATION TO THE CITY'S MAIN BUSINESS CENTERS. PURCHASE OF 2 CNG BUSES.	12/31/2018
BALDWIN PARK	LAF3507	SOUTH BALDWIN PARK COMMUTER BIKEWAY PROJECT. CONSTRUCT 3-MILE COMMUTER CLASS I BIKE PATH ALONG SAN GABRIEL RIVER AND WALNUT CREEK CONNECTING TO MAJOR EMPLOYMENT CENTERS ON BALDWIN PARK BLVD.	6/30/2018
BURBANK	LA0G1211	THIS PROJECT WOULD PROVIDE TRAFFIC SIGNAL UPGRADES, SIGNAL CONTROLLER UPGRADES, TIMING PLANS, AND TRAFFIC SIGNAL SYSTEM MONITORING TO INTERSECTIONS ON ARTERIAL STREETS WITHIN 1 MILE OF THE INTERSTATE 5 CORRIDOR. SCOPE INCLUDES AUGMENTING BURBANK TMC STAFF FOR MONITORING SIGNAL COORDINATION AND POLICE TRAFFIC CONTROL DURING THE LIFE OF THE CONSTRUCTION PROJECT.	7/30/2019
BURBANK	LA0G916	MEASURE R ARROYO VERDUGO HIGHWAY OPERATIONAL IMPROVEMENTS ALONG SR-134 CORRIDOR. INCLUDES APPROXIMATELY 20+ INTERSECTIONS (NON-CONSECUTIVE) AND INCLUDES CCTV, SIGNAL/TURN-SIGNAL IMPROVEMENTS, FIBER COMMUNICATIONS AND VIDEO DETECTION.	12/1/2016
BURBANK	LF1502	SAN FERNANDO BIKEWAY. IMPLEMENT A CLASS I BIKEWAY ALONG SAN FERNANDO BLVD, VICTORY PLACE AND BURBANK WESTERN CHANNEL TO COMPLETE THE BURBANK LEG OF A 12 MILE BIKEWAY.	10/30/2019

Attachment A: Committed Transportation Control Measures (TCMs)

Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
BURBANK	LAF3313	BURBANK-GLENDALE TRAFFIC SYSTEM COORDINATION. REPLACE TYPE 170 TRAFFIC SIGNAL CONTROLLERS WITH TYPE 2070 & ASSOCIATED COMMUNICATIONS EQUIPMENT IN BURBANK & GLENDALE & INSTALL SYSTEM DETECTION ON GLENOAKS BL & SAN FERNANDO BL. CITY OF BURBANK AND CITY OF GLENDALE ALONG GLENOAKS BOULEVARD BETWEEN BUENA VISTA STREET IN BURBANK AND GENEVA STREET IN GLENDALE, AND ALONG SAN FERNANDOM BOULEVARD BETWEEN OLIVE AVENUE IN BURBANK AND GLENDALE AVENUE IN GLENDALE (SIG SYN - APROX. 65 SIGNALS).	12/1/2017
BURBANK GLENDALE PASADENA AIRPORT	LA000789A	BURBANK-GLENDALE-PASADENA AIRPORT INTERMODAL GROUND ACCESS LINK: CONSTRUCTION OF A LINK BETWEEN THE AIRPORT AND OTHER TRANSPORTATION SERVICES, INCLUDING CONSTRUCTION OF A NEW METROLINK STATION AT HOLLYWOOD WAY/SAN FERNANDO ROAD ON THE ANTELOPE VALLEY LINE AND A LINK BETWEEN THE AIRPORT AND OTHER TRANSPORTATION SERVICES. (CONSTRUCTION OF LA000789)	3/31/2017
CALABASAS	LA0G606	THIS PROJECT WOULD REDESIGN THE INTERSECTION AT THE PARKWAY CALABASAS ON/OFF RAMP FOR THE US101. PRESENTLY, TRAFFIC QUEUES OBSTRUCT THROUGH TRAFFIC ALONG CALABASAS ROAD, AND THERE ARE NO PEDESTRIAN IMPROVEMENTS. THIS PROJECT WOULD WIDEN CALABASAS ROAD FROM MUREAU ROAD TO THE PARKWAY CALABASAS OFFRAMP AND PROVIDE BIKE LANES AND SIDEWALKS.	7/1/2016
CALTRANS	LA000358	ROUTE 005: --- FROM ROUTE 134 TO ROUTE 170 HOV LANES (8 TO 10 LANES) (CFP 346)(2001 CFP 8355). (EA# 12180, 12181,12182+12183=1218W,12184, 13350 PPNO 0142F,151E,3985,3986,3987) SAFETEA LU # 570. CONSTRUCT MODIFIED IC @ I-5 EMPIRE AVE, AUX LNS NB & SB BETWEEN BURBANK BLVD & EMPIRE AVE; AND MODIFY EXISTING STRUCTURES. ADD AUXILIARY LANE BETWEEN ALAMEDA AND OLIVE FROM PM 28.43 TO PM 29.78	6/30/2019
CALTRANS	LA000548	ROUTE 10: FROM PUENTE TO CITRUS HOV LANES FROM 8 TO 10 LANES & SOUNDWALLS (C-ISTEA 77720, 95 STIP-IIP) (EA# 117080,11172, 1170U, PPNO# 0309N, 0309S)-(USE TOLL CREDITS AS LOCAL MATCH).	10/31/2018
CALTRANS	LA0B875	ROUTE 10: HOV LANES AND PAVEMENT REBHAB FROM CITRUS TO ROUTE 57 - (EA# 11934+31120 = 1193U, PPNO# 0310B+4812=0310B).USE TOLL CREDIT AS LOCAL MATCH	1/4/2018

Attachment A: Committed Transportation Control Measures (TCMs)

Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
CALTRANS	LA0D73	ROUTE 5: LA MIRADA, NORWALK & SANTA FE SPRINGS-ORANGE CO LINE TO RTE 605 JUNCTION. WIDEN FOR HOV & MIXED FLOW LNS, RECONSTRUCT VALLEY VIEW (EA 2159A0 = 21591, 21592, 21593, 21594, 21595, 31320 PPNO 2808 = 4153, 2808, 4154, 4155, 4156, 4841). TCRP#42.2&42.1 (USE TOLL CREDITS AS LOCAL MATCH)	9/12/2019
CALTRANS	LA0G440	ROUTE 005: **PHASE 2**, FROM SR-14 TO PARKER ROAD, CONSTRUCT HOV/HOT, TRUCK & AUX LANES (EA 2332C, PPNO 3189A & EA 2332E PPNO 3189B), SAFTETEA-LU#465. PE & RW $ ARE PROGRAMMED FOR EA 2332E ONLY.	6/11/2020
CARSON, CITY OF	LA0G1130	ACTIVE TRANSPORTATION PROGRAM - CITY-WIDE BIKE AND PEDESTRIAN IMPROVEMENTS - THE INFRASTRUCTURE COMPONENT INCLUDES A CLASS II BIKE LANE (1.07 MILE) ON SANTA FE AVE, HIGH VISIBILITY CROSSWALKS, COUNTDOWN PEDESTRIAN SIGNALS, CURB RAMPS, ETC. THE NON-INFRASTRUCTURE COMPONENT INCLUDES, EDUCATION, ENCOURAGEMENT, AND ENFORCEMENT PROGRAMMING THAT WILL OCCUR OVER A THREE YEAR PERIOD.	12/31/2018
CARSON, CITY OF	LA0G1179	TRANSFORM MAINTENANCE ROAD TO A NEW 1.3 MILE CLASS I BIKE PED PATH ON DOMINGUEZ CHANNEL. IMPROVEMENTS INCLUDE IMPROVING HORIZONTAL AND VERTICAL GEOMETRY FOR IMPROVED SIGHT DISTANCE, ADDING A GUARDRAIL TO EXISTING BRIDGE, AND IMPROVING THE AVALON BLVD. INTERSECTION SIGNAL.	12/30/2018
COMPTON	LA0G1131	WILMINGTON AVE SAFE STREETS PED/BICYCLE IMPROVEMENTS IS A PED/BIKE SAFETY IMPROVEMENT PROJECT FOR THE COMMUNITIES ADJACENT TO THE WILMINGTON AVENUE TRANSPORTATION CORRIDOR BY DEVELOPING SAFER PED CROSSINGS AND INTERSECTIONS AS WELL AS INSTALLING BIKE PATHS TO IMPROVE PED/BIKE SAFETY. TOTAL LENGTH OF CLASS II BIKE WAY IS 1.09 MILE ALONG WILMINGTON AVE BETWEEN EL SEGUNDO BLVD AND ROSECRANS AVE (0.9 MILE) AND ALONG ROSECRANS AVE BETWEEN WILMINGTON AVE AND COMPTON CREEK (0.19 MILE).	6/30/2018
COVINA	LAF5501	CITY OF COVINA BICYCLE NETWORK-CONSTRUCT CLASS II BIKE LANES ON CITRUS AV (1.8 MI), FRONT ST (0.13 MI), SECOND AV (0.87 MI), BADILLO ST (3.61 MI) AND AZUSA AV (1.53 MILES). THIS PROJECT PROVIDES DIRECT CONNECTIVITY TO A REGIONALLY SIGNIFICANT BIKE-TRANSIT HUB (COVINA METROLINK STATION) IDENTIFIED IN METRO'S 2006 BICYCLE TRANSPORTATION STRATEGIC PLAN. THE PROJECT WILL ALSO PROVIDE SECURE BIKE PARKING AT A LOCATION DETERMINED TO HAVE SIGNIFICANT NEED FOR BICYCLISTS.	4/30/2019
CULVER CITY	LAF3318	TRAFFIC MONITORING AND SURVEILLANCE SYSTEM GAP CLOSURE. DESIGN AND IMPLEMENTATION OF 14 CCTV CAMERA TRAFFIC MONITORING AND SURVEILLANCE SYSTEM, HUB SWITCHING EQUIPMENT AND APPROX. 4 MI OF FIBER OPTIC COMMUNICATION CABLES, AND EOC VIDEO.	12/30/2016

Attachment A: Committed Transportation Control Measures (TCMs)

Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
CULVER CITY	LAF5302	PROJECT WILL UPGRADE THE CURRENT TRAFFIC CONTROL SYSTEM TO AN ADAPTIVE TRAFFIC CONTROL SYSTEM (ATCS). PROJECT WILL REPLACE 90 TYPE 170 CONTROLLERS WITH TYPE 2070, ADD ADDITIONAL VEHICLE DETECTORS AT 102 LOCATIONS, AND UPGRADE COMMUNICATIONS EQUIPMENT AND CONNECTION TO FIBER-OPTIC BACKBONE. THE ATCS WILL CONTROL 102 INTERSECTIONS THROUGHOUT CULVER CITY.	3/1/2019
CULVER CITY MUNI BUS LINES	LAF3317	BUS SIGNAL PRIORITY IN CULVER CITY. DESIGN, DEVELOP & INSTALL WIRELESS BUS SIGNAL PRIORITY SYSTEM ON CULVER CITY BUS FLEET AND AT INTERSECTIONS TO INCREASE OPERATION EFFICIENCY & TRAVEL TIME SAVINGS. THE PROJECT INCLUDES INTERSECTIONS WITH TRANSIT SERVICE WITHIN THE BOUNDARY OF THE CITY OF CULVER CITY.	6/30/2017
DIAMOND BAR	LAF7300	DIAMOND BAR ADAPTIVE TRAFFIC CONTROL SYSTEM PROJECT : INSTALLS ADAPTIVE TRAFFIC CONTROL SYSTEM (ATCS) AT SIGNALIZED INTERSECTIONS ON DIAMOND BAR BL, GOLDEN SPRINGS DR, AND GRAND AV. (2) PROVIDES FULLY TRAFFIC RESPONSIVE SIGNAL CONTROL SYSTEM BASED ON TRAFFIC DEMANDS.	6/30/2019
DOWNEY	LAF5114	TELEGRAPH ROAD TRAFFIC THROUGHPUT AND SAFETY ENHANCEMENT BETWEEN THE RIO HONDO RIVER CHANNEL TO THE SAN GABRIEL RIVER CHANNEL, A DISTANCE OF 2.2 MILES. PROJECT INVOLVES THE CONSTRUCTION OF RAISED MEDIAN ISLANDS, MINOR WIDENING AT INTERSECTIONS, TRANSIT PRIORITY SYSTEM AND BIKE (2.2 MILES IN LENGTH) AND PEDESTRIAN CIRCULATION IMPROVEMENTS.	6/30/2018
DUARTE	LAF5627	DUARTE GOLD LINE STATION PEDESTRIAN IMPROVEMENTS. THIS PROJECT IS LOCATED IN DUARTE ON DUARTE RD BETWEEN HIGHLAND AV AND BUENA VISTA ST. IT WILL FUND PEDESTRIAN IMPROVEMENTS AROUND THE DUARTE GOLD LINE STATION, CONNECTING THE STATION WITH SURROUNDING LAND USES AND OTHER TRANSIT LINES BY CONSTRUCTING SIDEWALK ON THE NORTH SIDE OF DUARTE RD AND INSTALLING PEDESTRIAN LIGHTING, LANDSCAPING, BENCHES, TRASH RECEPTACLES, CURB RAMPS, PEDESTRIAN CROSSINGS, AND WAYFINDING SIGNS.	6/1/2017

Attachment A: Committed Transportation Control Measures (TCMs)

Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
EL MONTE	LA0G1180	A 0.5 MILE CLASS III BIKE ROUTE WITH SHARROWS, A 0.7 MILE CLASS II GREEN-PAINTED BIKE LANE, AND A 2 MILE A CLASS II BIKE LANE WITH BUFFER PAVEMENT STENCILING. IMPROVEMENTS INCLUDES ROADWAY RESURFACING, HIGHLIGHTING, CROSSWALK IMPROVEMENTS, CAMERA INSTALLATION AT INTERSECTIONS, AND WAYFINDING SIGNAGE. THE PROJECT RUNS 3.2 MILES ALONG SANTA ANITA FROM ELLIOT AVENUE (SOUTH) TO WEST HONDO PARKWAY (NORTH).	12/30/2018
EL MONTE	LAF5705	SHARED PARKING PROGRAM/SMART PARKING DETECTION SYS IN DOWNTOWN AREA; I-10 FWY, EL MONTE BUSWAY, EL MONTE TRANSIT CTR, TRANSIT VILLAGE, AND EL MONTE METROLINK STATION. COMPREHENSIVE PARKING STRATEGY PLAN. INCLUDES SMART PARKING DETECTION SYSTEM AND SHARED PARKING PROGRAM. UTILIZE MOBILE COMMUNICATION DEVICES TO ASSESS THE PARKING AVAILABILITY AT MULTIPLE PARKING LOTS. PROVIDE REAL-TIME INVENTORY OF PARKING SPACES.	6/30/2017
GARDENA	LA0G1164	LINE 1X-EXPAND TRANSIT BUS SERVICE ON I-110 FREEWAY: EXPANSION OF LINE 1X TRANSIT SERVICE TO PROVIDE MID-DAY SERVICE. THIS PROJECT IS FUNDED BY THE METRO'S EXPRESSLANES TOLL REVENUE REINVESTMENT PROGRAM.	6/30/2018
GARDENA	LA0G1175	COMPUTER AUTOMATED DISPATCHING/AUTOMATED VEHICLE LOCATION (CAD/AVL)SOLUTION WITH REAL TIME PASSENGER INFORMATION NETWORK. TOLL CREDIT (TDC) OF $400 WILL BE UTILIZED IN FY15/16 TO MATCH FTA 5307 FUNDS.	12/30/2016
GARDENA	LAF3306	THIS PROJECT WILL ALLOW GMBL TO IMPLEMENT TRANSIT SIGNAL PRIORITY ALONG ITS LINE 2 TO REDUCE TRANSIT TRAVEL TIMES AND ENHANCE ON TIME PERFORMANCE. SCOPE INCLUDES INSTALLATION OF TRAFFIC SIGNAL PRIORITY EQUIPMENT ALONG THE FOLLOWING STREETS IN THE CITY OF GARDENA: VERMONT AVE FROM EL SEGUNDO BLVD TO 182ND ST; WESTERN AVE FROM EL SEGUNDO BLVD TO CASSIDY ST; 182ND ST FROM NORMANDIE AVE TO THE HARBOR GATEWAY TRANSIT CENTER. THIS WILL INCLUDE UP TO 27 LOCATIONS.	6/30/2016
GLENDALE	LA0G1148	SIGNAL INSTALLATION AT VARIOUS LOCATIONS- PACIFIC AVE. TRAFFIC SIGNAL MODIFICATIONS. SIGNAL SYNCH FOR SIX (6) NON-CONSECUTIVE INTERSECTIONS ALONG PACIFIC AVENUE.	6/1/2016
GLENDALE	LA0G809	CONSTRUCTION OF CITYWIDE BIKEWAY FACILITY THIS PROJECT INCLUDES CONSTRUCTION OF CLASS II, AND SHARROWS RECOMMENDED IN THE GLENDALE BICYCLE MASTER PLAN AND INSTALLATION OF CITYWIDE BIKE RACKS, AND OTHER AMENITIES RELATED TO BICYCLE. THE PROJECT LENGTH MAY INCLUDE OVER 12 MILES OF BIKE LANES.	12/1/2018

Attachment A: Committed Transportation Control Measures (TCMs)

Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
HUNTINGTON PARK	LA0G1141	STATE ST. COMPLETE STREET PROJECT BETWEEN RANDOLPH ST AND SANTA ANA ST (1.5 MILE) PROPOSES IMPROVEMENTS THAT WILL HELP IMPROVE STATE STREET'S OVERALL OPERATION AND EFFICIENCY WHILE PROMOTING BICYCLING AND WALKING WITHIN HUNTINGTON PARK.	5/1/2017
INGLEWOOD	LA0G843	MEASURE R ITS PHASE IV - PART A OF A TWO PART ITS IMPROVEMENT PROJECT. DESIGN AND CONSTRUCTION OF APPROXIMATELY 2.7 MILES OF COMMUNICATION INFRASTRUCTURE ALONG LA BREA, FLORENCE, CRENSHAW, MANCHESTER AND CENTINELA. SIGNAL SYNCHRONIZATION (APPROX. 20 LOCATIONS); DESIGN AND CONSTRUCTION OF SYSTEM DETECTION (APPROX. 40 INTERSECTIONS); CHANGEABLE MESSAGE SIGNS (2 LOCATIONS); CCTV CAMERAS (APPROX. 6 LOCATIONS) AND TRAFFIC MANAGEMENT CENTER EQUIPMENT AND COMMUNICATION NETWORK INTEGRATION.	6/30/2016
LAWNDALE	LAF7500	HAWTHORNE BOULEVARD CLASS II BICYCLE LANES: (1) INSTALLS 1.0 MILE OF CLASS 2 BIKE LANES ON HAWTHORNE BLVD FOR BOTH DIRECTIONS. (2) PROVIDES BICYCLE PARKING.	10/31/2019
LONG BEACH	LAE0332	LONG BEACH PARK AND RIDE FACILITY AT 3RD STREET AND PACIFIC AVE SOUTH OF THE MTA BLUE LINE PACIFIC STATION. 300 TO 500 SPACE AND INCLUDE RESIDENTIAL AND COMMERCIAL DEVELOPMENT	COMPLETE TCM SUBSTITUTION, REPLACED BY LAF75D8, LAF7512, AND LAF7517
LONG BEACH	LAE1296	LONG BEACH INTELLIGENT TRANSPORTATION SYSTEM	12/31/2016
LONG BEACH	LAF1530	BICYCLE SYSTEM GAP CLOSURES & IMPROVED LA RIVER BIKE PATH. PROJECT WILL CONSTRUCT PRIORITY CLASS I & III BICYCLE SYSTEM GAP CLOSURES IN LONG BEACH AND IMPROVE CONNECTION TO LA RIVER. CLASS II BIKE LANES 4.8 MILES, CLASS III 3 MILES.	6/30/2016
LONG BEACH	LAF5503	CITY OF LONG BEACH PHASE II BIKE SHARE PROGRAM. THIS PROJECT IS LOCATED IN THE CITY OF LONG BEACH AND WILL IMPLEMENT A PHASE II BIKE-SHARE PROGRAM. FUNDS ARE REQUESTED FOR THE PURCHASE AND INSTALLATION OF 500 BIKES, 50 DOCKING STATIONS AND KIOSKS, AND WAYFINDING/SIGNAGE. THE PROJECT WILL SUPPORT LOCAL AND METRO TRANSIT STATIONS, EMPLOYMENT AREAS, BUSINESS DISTRICTS, AND MAJOR ACTIVITY NODES.	6/30/2019

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Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
LONG BEACH	LA0G830	I-710 IMPROVEMENTS/SHOEMAKER BRIDGE - DOWNTOWN EXITS. THE PROJECT MAKES BICYCLE, PEDESTRIAN, AND STREETSCAPE IMPROVEMENTS ON MAJOR THOROUGHFARES.	12/31/2020
LONG BEACH	LAF5609	DOWNTOWN LONG BEACH PINE AVENUE STREETSCAPE IMPROVEMENT. THIS PROJECT IS LOCATED ON PINE AVE BETWEEN SEASIDE WY AND ANAHEIM ST. IT WILL IMPLEMENT STREET IMPROVEMENTS, SUSTAINABLE DESIGN FEATURES, AND PEDESTRIAN ENHANCEMENTS ALONG A MAJOR TRANSIT NODE INCLUDING: PEDESTRIAN LIGHTING, CROSSWALK ENHANCEMENTS, DIAGONAL CROSSWALKS, STREET FURNITURE, BIKE RACKS, STREET TREES, LANDSCAPING, BOLLARDS TO FACILITATE STREET CLOSURE FOR COMMUNITY EVENTS AND REMOVAL OF OBSTRUCTIONS FROM THE WALKWAY.	7/1/2016
LONG BEACH	LAF7316	ARTESIA CORRIDOR ATCS ENHANCEMENT PROJECT : (1) UPGRADES TRAFFIC SIGNALS ALONG ARTESIA BL BETWEEN LONG BEACH BL AND DOWNEY AV TO CONNECT WITH ADAPTIVE TRAFFIC CONTROL SYSTEM (ATCS). (2) INSTALLS CCTV AND CMS ON ARTESIA BL. (3) INSTALLS FIBER OPTIC CABLE AND DEVICES TO CONNECT SIGNALS TO EACH OTHER AND TRAFFIC MANAGEMENT CENTER (TMC). (4) TWO NEW TRAFFIC SIGNALS IN COMPTON (5) INSTALLS CLASS II BIKE LANE IN BOTH DIRECTIONS FROM ATLANTIC AV TO SUSANA RD. (6) PEDESTRIAN IMPROVEMENTS.	1/1/2019
LOS ANGELES COUNTY	LA0C8120	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN & CONSTRUCTION OF MULTI JURISDICTIONAL, SIGNAL SYSTEM IMPROVEMENTS ON REGIONAL ARTERIALS & ADVANCED ITS TECHNOLOGY. (APROX. 770 INTERSECTIONS)	12/31/2015
LOS ANGELES COUNTY	LA0D465	COLIMA ROAD-CITY OF WHITTIER LIMITS TO FULLERTON ROAD, FOR A TOTAL DISTANCE OF 4.9 MILES. THE PROJECT WILL WIDEN COLIMA RD BY UP TO SIX FEET AT SPOT LOCATIONS AND RESTRIPE TO ACCOMMODATE THREE THROUGH LANES IN EACH DIRECTION.. A CLASS II BIKEWAY FROM THE CITY OF WHITTIER WILL BE EXTENDED TO ALLENTON AV, A DISTANCE OF 1.2 MILES, AND BUS PADS WILL BE REPLACED. INCLUDES MEDIAN LANDSCAPING. TOLL CREDITS USED TO MATCH FY 14/15 AND FY 15/16 CMAQ.	12/15/2020
LOS ANGELES COUNTY	LAF1511	EASTSIDE LIGHT RAIL BIKE INTERFACE PROJECT. PROJECT INCLUDES DESIGN AND CONSTRUCTION OF BIKE ROUTES WITH APPROPRIATE SIGNAGE AND STRIPING TO ACCESS METRO GOLD LINE STATIONS. TOLL CREDITS - LOCAL AND STATE HWYOF $20 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	10/30/2016
LOS ANGELES COUNTY	LAF3308	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN AND CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCH, INTERSECTION OPERATIONAL IMPROVEMENTS, AND INTELLIGENT TRANSPORTATION SYSTEM COMPONENTS ON REGIONAL ARTERIALS. APROX. 183 SIGNALS TOTAL.	6/30/2016

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Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
LOS ANGELES COUNTY	LAF3310	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN AND CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, OPERATIONAL IMPROVEMENTS & ITS COMPONENTS ON ARTERIALS IN THE SOUTH BAY AREA OF LA COUNTY. (APROX 40+ SIGNALS)	6/30/2016
LOS ANGELES COUNTY	LAF5515	FLORENCE METRO BLUE LINE STATION BIKEWAY ACCESS IMPROVEMENTS.DESIGN AND CONSTRUCT 11.19 MILES OF CLASS III BIKE ROUTES WITH SHARROWS AND ENHANCED TREATMENTS (BICYCLE BOULEVARD). SHORT-TERM BICYCLE PARKING WILL BE PROVIDED AND LIMIT LINE LOOP DETECTORS WILL BE UPGRADED TO DETECT BICYCLES AT ALL REQUIRED SIGNALIZED INTERSECTIONS. CLASS III BIKE ROUTES WITH SHARROWS WILL BE INSTALLED AT VARIOUS LOCATIONS.. TOLL CREDITS - LOCAL AND STATE HWYOF $18 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	10/30/2020
LOS ANGELES COUNTY	LA0D461	RECONSTRUCT- THE OLD ROAD FROM HILLCREST PARKWAY TO LAKE HUGHES RD & WIDEN FROM 40' TO 68', 2 VEH. LANES AND A 5' CLASS II BIKELANE IN EA DIR & STRIPPED MEDIAN (FROM 2 TO 4 LNS 2 EA DIR) FOR 2.1 MILES.	6/30/2021
LOS ANGELES COUNTY	LAF1311	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN & CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, INTERSECTION OPERATIONAL IMPROVEMENTS, AND INTELLIGENT TRANSP. SYSTEM COMPONENTS ON REGIONAL ARTERIALS. SYNCHRONIZES 50 CONSECUTIVE INTERSECTIONS.	10/1/2016
LOS ANGELES COUNTY	LAF1321	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN & CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, INTERSECTION OPERATIONAL IMPROVEMENTS, AND INTELLIGENT TRANSPORTATION SYSTEM COMPONENTS. SYNCHRONIZES 83 CONSECUTIVE INTERSECTIONS.	10/1/2016
LOS ANGELES COUNTY	LAF3309	GATEWAY CITIES FORUM TRAFFIC SIGNAL CORRIDORS PROJ, PHASE VI. DESIGN AND CONSTRUCT MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, INTERSECTION OPERATIONAL IMPROVEMENTS & ITS COMPONENTS ON REGIONAL ARTERIALS IN GATEWAY CITES AREA. (APROX. 126 SIGNALS)	6/30/2016

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Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
LOS ANGELES COUNTY	LAF5310	RAMONA BOULEVARD/BADILLO STREET/COVINA BOULEVARD TSSP/BSP. IMPLEMENTION OF A TRAFFIC SIGNAL SYNCHRONIZATION PROJECT (TSSP) ON RAMONA BL/BADILLO ST/COVINA BL FROM SANTA ANITA AV TO THE 57 FREEWAY. A BUS SIGNAL PRIORITY (BSP) PROJECT WILL BE IMPLEMENTED ON RAMONA BL/BADILLO ST FROM TYLER AV TO GRAND AV TO GIVE TRANSIT PRIORITY FOR FOOTHILL TRANSIT OPERATIONS (APROX. 48 SIGNAL LOCATIONS)	6/30/2019
LOS ANGELES COUNTY	LAF5314	GATEWAY CITIES FORUM TRAFFIC SIGNAL CORRIDORS PROJECT - IMPROVE TRAFFIC SIGNAL OPERATIONS BY UPGRADING EACH TRAFFIC SIGNAL TO FEDERAL AND STATE STANDARDS, PROVIDING ADDITIONAL VEHICLE DETECTION TO ENABLE OPERATION AS A FULLY TRAFFIC-ACTUATED SIGNAL, INSTALLING THE APPROPRIATE COMPONENTS TO ENABLE EACH SIGNAL TO BE CAPABLE OF TIME-BASED COORDINATION AND RETIMING SIGNALS TO IMPROVE THE OVERALL PROGRESSION OF TRAFFIC.(APROXIMATLY 17 SIGNALS INCLUDED)	6/30/2019
LOS ANGELES COUNTY	LAF5315	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. THIS PROJECT INCLUDES 6 INTERSECTIONS AT MYRTLE AV/PECK RD BETWEEN HUNTINGTON DR AND CLARK ST AND PROVIDES FOR SYSTEM WIDE COORDINATION, TIMING AND OPERATIONAL IMPROVEMENTS AND TRAFFIC SIGNAL SYNCHRONIZATION, EQUIPMENT UPGRADES AND INTERSECTION OPERATIONAL IMPROVEMENTS. (APROX. 20+ SIGNALS)	6/30/2019
LOS ANGELES COUNTY	LAF5316	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT - SYSTEMWIDE COORDINATION, TIMING AND OPERATIONAL IMPROVEMENTS AND TRAFFIC SIGNAL SYNCHRONIZATION, EQUIPMENT UPGRADES AND INTERSECTION OPERATIONAL IMPROVEMENTS IN SOUTH BAY REGION. 25 SIGNALS SYSTEM WIDE. ADDITIONALLY, THIS PROJECT WILL INSTALL ANY WARRANTED AND FEASIBLE ROADWAY IMPROVEMENTS ALONG THE ROUTES TO IMPROVE OVERALL PROGRESSION.	6/30/2019
LOS ANGELES COUNTY	LAF5514	VERMONT AVE BIKE LANE - MANCHESTER BLVD TO EL SEGUNDO BLVD. FUNDS ARE REQUESTED TO DESIGN AND CONSTRUCT CLASS II BIKE LANES ON VERMONT AV (3.0 MILES). SHORT TERM BICYCLE RACKS (14) ARE ALSO PROPOSED AT KEY DESTINATIONS.. TOLL CREDITS OF $10 WILL BE USED TO MATCH FY16 FEDERAL FUNDS FOR THE CON PHASE	2/26/2019
LOS ANGELES COUNTY	LAF7703	EXPERIENCELA 3.0-MOBILITY IN THE CLOUD : DEVELOPS AND IMPLEMENTS CLOUD COMPUTING BASED SOFTWARE TECHNOLOGY TO PROVIDE TRANSIT USERS LOCATION SPECIFIC INFORMATION VIA PERSONAL MOBILE DEVICES AND INTERACTIVE KIOSKS AT KEY TRANSPORTATION FACILITIES.	6/30/2019
LOS ANGELES COUNTY MTA	LA0C8164	EXPOSITION BLVD RIGHT-OF-WAY BIKE PATH-WESTSIDE EXTENSION. DESIGN AND CONSTRUCTION OF 2.5 MILES OF CLASS 1 BIKEWAY, LIGHTING, LANDSCAPING & INTERSECTION IMPROVEMENTS. (PPNO# 3184)	7/31/2018

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Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
LOS ANGELES COUNTY MTA	LA0C8114	LA CNTY RIDESHARE SERVICES; PROVIDE COMMUTE INFO, EMPLOYER ASSISTANCE AND INCENTIVE PROGRAMS THROUGH CORE & EMPLOYER RIDESHARE SERVICES & MTA INCENTIVE PROGRAMS. PPNO 9003	12/30/2016
LOS ANGELES COUNTY MTA	LA0D198	CRENSHAW/LAX TRANSIT CORRIDOR - THE CRENSHAW/LAX TRANSIT CORRIDOR PROJECT IS AN 8.5-MILE LIGHT RAIL TRANSIT (LRT) LINE EXTENDING FROM THE INTERSECTION OF CRENSHAW AND EXPOSITION BOULEVARDS ALLOWING FOR TRANSFER TO THE EXPOSITION LIGHT RAIL TRANSIT LINE TO A CONNECTION WITH THE METRO GREEN LINE AT THE AVIATION/LAX STATION	4/30/2021
LOS ANGELES COUNTY MTA	LA0F021	EXPOSITION LIGHT RAIL TRANSIT SYSTEM PHASE II - FROM CULVER CITY TO SANTA MONICA	12/31/2017
LOS ANGELES COUNTY MTA	LA0F075	LIGHT RAIL TRANSIT FLEET-UP TO 133 NEW CARS SYSTEMWIDE. THESE EXPANSION RAIL CARS WILL BE ASSIGNED TO EXPO II, GOLD LINE FOOTHILL AND VEHICLE REPLACEMENTS.	3/30/2019
LOS ANGELES COUNTY MTA	LA0G010	REGIONAL CONNECTOR - LIGHT RAIL IN TUNNEL ALLOWING THROUGH MOVEMENTS OF TRAINS, BLUE, GOLD, EXPO LINES. FROM ALAMEDA / 1ST STREET TO 7TH STREET/METRO CENTER	5/31/2021
LOS ANGELES COUNTY MTA	LA0G1052	METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION 2 - WILSHIRE/LA CIENEGA TO CENTURY CITY	6/30/2026
LOS ANGELES COUNTY MTA	LA0G1149	IMPROVEMENTS AT FOUR SITES ALONG CESAR CHAVEZ AVENUE, THE PERIMETER OF THE LOS ANGELES UNION STATION, AT ALAMEDA AND VIGNES STREETS. LAND WILL BE ACQUIRED FOR A BUS PAVILION, BIKE FACILITIES, AND ENHANCED LANDSCAPING AT ONE SITE. STREET FURNITURE WILL BE REPLACED AND UPDATED AT THE THREE OTHER SITES. A CONTINENTAL CROSSWALK WILL BE INSTALLED ON ALL FOUR SEGMENTS OF THE INTERSECTION AT CESAR CHAVEZ AVENUE AND VIGNES STREET	5/31/2017
LOS ANGELES COUNTY MTA	LA0G1167	DESIGN AND CONSTRUCTION OF STREETSCAPE, PEDESTRIAN AND BICYCLE ACCESS IMPROVEMENTS IN THE LITTLE TOKYO AND ARTS DISTRICT NEIGHBORHOOD OF DOWNTOWN LOS ANGELES WITHIN A ONE-MILE RADIUS OF THE 1ST/CENTRAL STATION OF THE REGIONAL CONNECTOR LIGHT RAIL LINE.	8/31/2020

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Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
LOS ANGELES COUNTY MTA	LA0G1182	EXPRESS LANES - 84 BIKE STATION AND 840 BIKES FOR DEPLOYMENT OF THE BIKESHARE WITHIN 1 MILE RADIUS OF RAIL STATIONS.	12/30/2018
LOS ANGELES COUNTY MTA	LA0G1184	DESIGN AND CONSTRUCT A HIGH-CAPACITY BIKE PARKING FACILITY TO ACCOMDATE AT LEAST 300 PARKED BICYCLES IN A SECURE ENVIRONMENT.	12/30/2018
LOS ANGELES COUNTY MTA	LA0G447	METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION 1 - WILSHIRE/WESTERN TO LA CIENEGA	12/31/2023
LOS ANGELES COUNTY MTA	LA29202W	WILSHIRE BLVD BRTPHASE I: 12.5-MI. CORRIDOR WITH 7.7-MI. PEAK PERIOD BUS LANE ON WILSHIRE WITHIN THE CITY AND COUNTY OF LA FROM VALENCIA ST. TO CITY OF SANTA MONICA. INCLUDES STREET WIDENING, CURB LANE REPAVING/RECONSTRUCTING, IMPROVED TRAFFIC SIGNAL TIMING & BUS SIGNAL PRIORITY. PHASE II: INCLUDES ENHANCED SHELTERS & LANDSCAPING; STREET REPAIR/RECONSTRUCTION; CONCRETE BUS PADS AND P&R FACILITIES.	6/30/2016
LOS ANGELES COUNTY MTA	LA0B408	ROUTE 405: ADD A 10-MILE HOV LANE ON THE NORTHBOUND 405 BETWEEN I-10 AND U.S. 101 IN LA FROM RTE 10 TO RTE 101 WIDEN FOR HOV LANE & MODIFY RAMPS, & HOV INGRESS/EGRESS AT SANTA MONICA BLV(EA 12030, PPNO 0851G, SAFETLU SECTION 1302 #18, 1934 #20)	5/24/2016
LOS ANGELES COUNTY MTA	LA0G1048	ACTON SIDING AND SECOND PLATFORM. LENGTHEN AN EXISTING SIDING WEST OF CP QUARTZ BY APPROX. 4,000 FEET INCLUDING A CROSSOVER, AND ADD A SECOND STATION PLATFORM AT VINCENT GRADE/ ACTON STATION. THE PROJECT WILL PROVIDE BENEFITS TO FREIGHT AND COMMUTER RAIL WITH IMPROVED OVERALL CAPACITY, TRACK OPERATIONS, AND SAFETY ALONG A VITAL SEGMENT OF THE ANTELOPE VALLEY LINE.	12/31/2016
LOS ANGELES COUNTY MTA	LA0G1051	EXTEND SEVERAL OF THE STUB-END TRACKS IN UNION STATION TO CONNECT WITH EXISTING MAINLINE TRACKS. THE PROJECT WILL SERVE THE EXISTING METROLINK, AMTRAK, AND NEW HIGH SPEED TRAIN PROJECT IN THIS CORRIDOR. IT WILL INCLUDE THE PREPARTION OF AN UPDATED ENVIRONMENTAL REPORT AND CLEARANCE, PREPARATION OF THE P/E DOCUMENTATION, PREPARATION OF FINAL PLANS, SPECIFICATIONS AND ESTIMATES, AND THE CONSTRUCTION OF THE PROJECT.	2/28/2019
LOS ANGELES COUNTY MTA	LA0G635	DESIGN AND CONSTRUCTION OF PEDESTRIAN AND TRANSIT ENHANCEMENTS ALONG THE PUBLIC RIGHT-OF-WAY OF THE METRO GOLD LINE EASTSIDE EXTENSION TO SURROUNDING NEIGHBORHOOD.TRANSIT ENHANCEMENTS ARE WITHIN 3 MILES OF EASTSIDE GOLDLINE EXTENSION STATION.	6/30/2020

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Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
LOS ANGELES COUNTY MTA	LA0G640	PACIFIC SURFLINER CORRIDOR - RAYMER/BERNSON DOUBLE TRACK IMPROVEMENTS - UPGRADE THE RAIL CORRIDOR FROM A SINGLE TRACK TO A DOUBLE TRACK, INSTALL CONCRETE TIES ON BOTH TRACKS, INSTALL FOUR NEW SPECIAL TRACKWORK TURNOUTS, NINE AT-GRADE CROSSINGS AND TWO BRIDGES, A NEW SECOND PLATFORM & NEW FENCING AT NORTHRIDGE AND A NEW PEDESTRIAN UNDERPASS. OTHER ENHANCEMENTS INCLUDE SIGNAL RELOCATION, UTILITY RELOCATION AND DRAINAGE IMPROVEMENTS.	12/31/2018
LOS ANGELES, CITY OF	LA0G1128	EXPO LINE BUNDY STATION FIRST]LAST MILE IMPROVEMENTS. THIS PROJECT WILL ESTABLISH PEDESTRIAN/BIKE-FRIENDLY ROUTES TO THE EXPO/BUNDY STATION THROUGH TRAFFIC CALMING, SAFETY IMPROVEMENTS, WAYFINDING, AND PLACE MAKING. PROJECT ELEMENTS INCLUDE SHADE TREES, ACCESS RAMPS, NEW SIDEWALKS, MEDIAN REFUGE, BICYCLE PARKLET, CURB EXTENSIONS, PEDESTRIAN LIGHTING, BIKE RACKS, AND STREET FURNITURE.	6/30/2017
LOS ANGELES, CITY OF	LA0G1165	COMMUTER EXPRESS SERVICE EXPANSION TO ALLEVIATE CONGESTION ON HARBOR FREEWAY: PURCHASE ONE NEW COMMUTER EXPRESS BUS AND EXTENSION OF SEVERAL AM & PM TRIPS ON EXPRESS ROUTE 438.	12/31/2018
LOS ANGELES, CITY OF	LA0G182	THE CENTRAL CITY EAST PROJECT WILL PROVIDE A FULLY TRAFFIC RESPONSIVE SIGNAL CONTROL SYSTEM TO APPROXIMATELY 150 INTERSECTIONS CURRENTLY OPERATIONAL WITH ATSAC CAPABILITY.	12/31/2016
LOS ANGELES, CITY OF	LA0G901	HISTORIC LOS ANGELES STREETCAR	6/30/2017
LOS ANGELES, CITY OF	LAF1524	SAN FERNANDO RD. BIKE PATH PH. IIIA/IIIB - CONSTRUCTION. RECOMMEND PHASE IIIA-CONSTRUCTION OF A CLASS I BIKE PATH WITHIN METRO OWNED RAIL RIGHT-OF-WAY ALONG SAN FERNANDO RD. BETWEEN BRANFORD ST. AND TUXFORD ST INCL BRIDGE. 2 MILE BIKEPATH.	6/30/2017
LOS ANGELES, CITY OF	LAF1708	HOLLYWOOD INTEGRATED MODAL INFORMATION SYSTEM. INSTALLATION OF ELECTRONIC, DIRECTION AND PARKING AVAILABILITY SIGNS WITH INTERNET CONNECTIVITY TO PROVIDE ADVANCE AND REAL-TIME INFORMATION INTENDED TO INCREASE TRANSIT RIDERSHIP	9/21/2017
LOS ANGELES, CITY OF	LAF3171	DE SOTO AVE WIDENING: RONALD REAGAN FWY TO DEVONSHIRE ST.. WIDEN DE SOTO AVE FR SR-118 TO DEVONSHIRE ST TO PROVIDE 3 LANES IN EACH DIRECTION & UNIFORM ROADWAY WIDTH. EXISTING ASPHALT BERMS TO BE	12/31/2017

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Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
		REPLACED WITH CURB, GUTTER, & 10' SIDEWALK. SIDEWALK IS 1.42 MILES, 90% OF THE SIDEWALKS ALONG THE PROJECT LIMITS WILL BE NEW.	
LOS ANGELES, CITY OF	LAF3314	INTELLIGENT TRANSPORTATION SYSTEM (ITS) COMMUNICATION SYSTEM. UPGRADE AND REPLACE UNDER CAPACITY COMMUNICATION SYSTEM HARDWARE IN ORDER TO PROVIDE A VIABLE AND COST EFFECTIVE COMMUNICATION LINK BETWEEN TRAFFIC CORRIDORS AND THE LA COUNTY IEN.	12/31/2016
LOS ANGELES, CITY OF	LAF3513	DESIGN AND CONSTRUCT 3.85 MILE BIKEWAY ALONG FUTURE EXPOSITION LIGHT RAIL CORRIDOR BETWEEN VENICE/ROBERTSON BLVDS. AND SANTA MONICA CITY LIMITS AT CENTINELA. CLASS I AND CLASS II BIKEWAYS.	12/31/2016
LOS ANGELES, CITY OF	LAF3731	DOWNTOWN LA INTER-MODAL TRANSIT INFORMATION AND WAYFINDING. INSTALL TRANSIT INFORMATION MONITORS, VARIABLE MESSAGE SIGNS, INTERACTIVE KIOSKS & PARKING AVAILABILITY SIGNAGE ALONG BROADWAY CORRIDOR TO OLYMPIC.	12/31/2017
LOS ANGELES, CITY OF	LAF5518	THIS PROJECT IS LOCATED IN THE CITY OF LOS ANGELES IN THE WEST SAN FERNANDO VALLEY. CONSTRUCTION OF A BICYCLE/PEDESTRIAN PATH FROM OWENSMOUTH AV TO MASON AV (1.25 MILES) ALONG THE SOUTH BANK OF THE LA RIVER. INCLUDES UNDERPASSES AT DE SOTO AV AND CANOGA AV/BUSWAY BRIDGES. THE PROJECT WILL INCLUDE LIGHTING, RAILING, STRIPING AND SIGNAGE AND A CONNECTION STRUCTURE TO THE METRO ORANGE LINE BIKEWAY.	6/30/2018
LOS ANGELES, CITY OF	LAF5620	EXPO LINE - TRANSIT/PEDESTRIAN LINKAGES - WEST. IT WILL FUND PEDESTRIAN IMPROVEMENTS BY INSTALLING DECORATIVE SIDEWALKS, STREET TREES, NEW AND UPGRADED ACCESS RAMPS, TRASH RECEPTACLES, BENCHES, BICYCLE RACKS, PEDESTRIAN LIGHTING, AND DECORATIVE CROSSWALKS. FUNDS ARE REQUESTED FOR DESIGN AND CONSTRUCTION COSTS. PEDESTRIAN LINKAGES 2.5 MILES.	7/1/2018
LOS ANGELES, CITY OF	LAF1612	CENTURY CITY URBAN DESIGN AND PEDESTRIAN CONNECTION PLAN. PROJECT WILL IMPLEMENT SIDEWALK IMPROVEMENTS, DECORATIVE CROSSWALKS, MEDIAN ISLAND, CURB RAMPS, PEDESTRIAN LIGHTING, SHELTERS, BENCHES, TRASH RECEPTACLES & STREET TREES. THE PHYSICAL IMPROVEMENTS WILL CONSIST OF A MEANDERING PEDESTRIAN WALKWAY, SOLAR-POWERED PEDESTRIAN SCALE LIGHTING, STREET LIGHTING, TRASH RECEPTACLES, BUS BENCHES, (10)BICYCLE RACKS.	12/31/2016
LOS ANGELES, CITY OF	LAF3315	CITY/COUNTY TRAFFIC MANAGEMENT INTEGRATION PHASE 2 PROJECT. INTEGRATE THE IEN TRAFFIC SIGNAL TIMING DATA AS SECOND LEVEL INPUTS INTO ATCS AND MAKE REVISIONS FROM 2007 CALL APPLICATION TO THIS PROJECT.	12/31/2016

Attachment A: Committed Transportation Control Measures (TCMs)

Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
LOS ANGELES, CITY OF	LAF3515	SAN FERNANDO RD. BIKE PATH PH. IIIB CONSTRUCTION. CONSTRUCT 2.75 MILE CLASS I BIKE PATH WITHIN METRO RIGHT-OF-WAY ALONG SAN FERNANDO RD. BETWEEN TUXFORD ST. AND COHASSET ST. TO COMPLETE 12-MILE BIKEWAY.. THE PROJECT IS LOCATED WITHIN THE CITY OF LOS ANGELES, IN THE COMMUNITY OF SUN VALLEY. THE PROJECT CONSISTS OF A CLASS I FACILITY 12 FEET IN WIDTH AND 2.75 MILES IN LENGTH BETWEEN TUXFORD ST. AND COHASSET ST. (BURBANK CITY LIMIT).	1/1/2016
LOS ANGELES, CITY OF	LAF3646	ARTS DISTRICT/LITTLE TOKYO GOLD LINE STATION LINKAGES. PEDESTRIAN ENHANCEMENTS INCLUDING SIDEWALK/PATH PAVING; PED LIGHTS; STREET TREES/PLANTING; DISTRICT SIGNAGE; ENTRY ELEMENTS; STREET FURNITURE; CROSSWALK PAVING; AND BIKE PARKING. (10 BIKE RACKS)	12/30/2017
LOS ANGELES, CITY OF	LAF5519	THIS PROJECT IS LOCATED IN THE CITY OF LOS ANGELES. CONSTRUCTION OF BICYCLE FRIENDLY STREET TREATMENTS: AT LEAST 100 DIRECTIONAL SIGNS, AT LEAST 500 SHARED LANE MARKINGS, AND BICYCLE DETECTORS AND MARKINGS PROVIDED TO AT LEAST 15 SIGNALIZED INTERSECTIONS. OTHER TREATMENTS WILL INCLUDE TRAFFIC CALMING DEVICES AND DIVERSION, WHICH INCLUDE AT LEAST ONE DIVERTER AND ROUNDABOUT.	12/31/2018
LOS ANGELES, CITY OF	LAF5525	TO DESIGN AND CONSTRUCT CURB-SIDE BICYCLE PARKING (BICYCLE CORRAL) THAT WILL SERVE EACH COUNCIL DISTRICT. THE PROJECT REQUIRES SURFACE MODIFICATIONS TO CURBSIDE PARKING AREAS FOR INSTALLING AT LEAST 150 BIKE RACKS.	1/1/2018
LOS ANGELES, CITY OF	LAF7628	WATTS STREETSCAPE IMPROVEMENTS PHASE 2: INSTALLS ADA RAMPS, LANDSCAPING STREET TREES, STREET FURNITURE, PED LIGHTING, CROSSWALK ENHANCEMENTS, CURB EXTENSIONS, SHARROWS, AND PED & BIKE WAYFINDING SIGNAGE.	12/31/2019
LOS ANGELES, CITY OF	LAF7707	LAST MILE FOLDING BIKE INCENTIVE PROGRAM : PROVIDES FINANCIAL INCENTIVES TO TRANSIT RIDERS TOWARDS THE PURCHASE OF 1,800 COLLAPSIBLE OR ELECTRIC BIKES TO USE IN CONJUNCTION WITH BUS AND RAIL SYSTEMS.	12/31/2018
MALIBU	LA0G910	PACIFIC COAST HIGHWAY REGIONAL TRAFFIC MESSAGE SYSTEMS. THE PROJECT WILL ENABLE THE CITY OF MALIBU AND OTHER AGENCIES TO NOTIFY TRAVELERS OF CRITICAL REGIONAL TRAFFIC AND SAFETY INFORMATION AND FACILITATE TRAFFIC FLOW THROUGHOUT THE REGION. 6 PERMANENT AND 2 MOBILE CHANGEABLE MESSAGE SIGNS WILL BE INSTALLED AT STRATEGIC LOCATIONS ALONG PCH/SR-1 CORRIDOR IN THE CITY OF MALIBU.	12/1/2017

Attachment A: Committed Transportation Control Measures (TCMs)

Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
METRO GOLD LINE FOOTHILL EXTENSION CONSTRUCTION AU	LA0G558	GOLD LINE FOOTHILL LRT EXTENSION - PASADENA TO AZUSA	12/31/2017
MONTEBELLO	LAES757	CUSTOMER INFORMATION SYSTEM PROJECT: INCLUDING AUTOMATIC VEHICLE LOCATION AND REAL-TIME PASSENGER INFORMATION SYSTEMS.	7/1/2016
MONTEBELLO	LA0G862	PURCHASE OF SEVEN (7) ALTERNATIVE FUEL EXPANSION TRANSIT BUSES	12/31/2016
MONTEREY PARK	LA0G1181	2.86 MILES CLASS III BIKE PATH. 1.96 MILES CLASS II BIKE PATH CONVERTED FROM ON-STREET PARKING AND MEDIAN. CLASS III BIKE PATH: MONTEREY PASS RD/GARVEY AVE (2.86 MILE). CLASS II BIKE PATH: CESAR CHAVEZ/RIGGIN (1.96 MILE)	12/31/2018
NORWALK	LAF3443	IMPROVEMENTS TO THE PEDESTRIAN PLAZA AT THE NORWALK/SANTA FE SPRINGS METRLINK STATION. IMPROVEMENTS INCLUDE DEVELOPMENT OF A CONTINUOUS NEW PEDESTRIAN WALKWAY AND BICYCLE PATH UTILIZING THE ROADBED ALONG THE NORTHERN EDGE OF THE PROPERTY. ADDITIONAL IMPROVEMENTS INCLUDE PASSENGER CAR PICK-UP/DROP-OFF AREA, PROPER SIGNAGE AND STRIPING, BUS SHELTER/SEATING AREA, SECURITY LIGHTING, AND LANDSCAPING AND INSTALLATION OF CLOSED CIRCUIT TELEVISION (CCTV) SURVEILLANCE SECURITY SYSTEM.	6/1/2016
PASADENA	LAE3790	THE PASADENA ITS INTEGRATES 2 COMPONENTS; TRAFFIC SIGNAL COMMUNICATION AND CONTRL, AND PUBLIC PARKING AVAILABILITY INFO. SAFETEA-LU PRJ #3790	4/30/2016
PASADENA	LAF3501	DETECTION OF BICYCLES AT SIGNAL CONTROLLED INTERSECTIONS. BICYCLE DETECTION SYSTEMS AT INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS ALONG BIKE CORRIDORS. PROJECT CORRIDOR LENGTH IS 15.5 MILES.	6/30/2016
PASADENA	LAF3301	METRO GOLD LINE AT-GRADE CROSSING MOBILITY ENHANCEMENTS. DEPLOYMENT OF ITS AT SIGNALIZED INTERSECTIONS ADJACENT TO METRO GOLD LINE AT-GRADE CROSSINGS TO PROVIDE ADAPTIVE TRAFFIC SIGNAL CONTROL TO IMPROVE MOBILITY & ENHANCE SAFETY. PROJECT INCLUDES 14 INTERSECTIONS.	5/1/2016
PASADENA	LAF3302	INTELLIGENT TRANSPORTATION SYSTEM (ITS) PHASE III (SIGNAL SYNCHRONIZATION PROJECT 3+ SIGNALS). COMPLETE THE MAIN COMMUNICATION INFRASTRUCTURE SYSTEM OF THE ITS COMMUNICATION MASTER PLAN BY CLOSING ALL GAPS IN THE EXISTING FIBER COMMUNICATION NETWORK. AS STATED IN THE PROJECT DESCRIPTION, THIS PROJECT TARGETS CRITICAL EXISTING GAPS WITHIN THE CITY'S ITS FIBER MASTER PLAN.	12/30/2016

Attachment A: Committed Transportation Control Measures (TCMs)

Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
PASADENA	LAF3710	PASADENA'S WAYFINDING SYSTEM. IMPLEMENT WAYFINDING SYSTEM INCLUDING TRANSIT INFORMATION AND CONNECTIVITY TO ADJACENT DESTINATIONS AT TRANSIT STOPS AND PARKING LOTS.	5/1/2016
POMONA	LA0G1135	DESIGN AND CONSTRUCT 14.5 MILE OF NEW BIKEWAYS AND IMPROVE PEDESTRIAN SAFETY THROUGH CROSSING IMPROVEMENTS AT EIGHT MAJOR INTERSECTIONS. BIKE IMPROVEMENTS INCLUDE 3.8 MILES OF CLASS II BUFFERED BIKE LANES, 2.9 MILES OF CLASS II BIKE LANES, AND 7.8 MILES OF CLASS III BIKE ROUTES.	9/30/2019
PORT OF LOS ANGELES	LAF3170	PORT TRUCK TRAFFIC REDUCTION PROGRAM: WEST BASIN RAILYARD. INTERMODAL RAILYARD CONNECTING PORT OF LA WITH ALAMEDA CORRIDOR TO ACCOMMODATE INCREASED LOADING OF TRAINS AT THE PORT, THEREBY REDUCING TRUCK TRIPS TO OFF-DOCK RAILYARDS.(LAF5204)	4/30/2017
REDONDO BEACH	LA0D29	HEART OF THE CITY BUS TRANSFER STATION AMENITIES. RELOCATE THE EXISTING INTERMODAL TRANSIT TERMINAL AND CONSTRUCT A NEW TRANSIT CENTER WITH 12 BUS BAYS, PASSENGER WAITING AREA AND INFORMATION CENTER, AND A DRIVER OPERATOR LOUNGE. THE PROPERTY WILL ALSO PROVIDE 339 PUBLIC PARKING SPACES (PLUS 2 FOR STAFF: MAINTENANCE & SECURITY) AND BICYCLE FACILITIES. LOCATION - 1521 KINGSDALE AVENUE, REDONDO BEACH, CA 90278	12/31/2016
REDONDO BEACH	LAF3502	REDONDO BEACH BICYCLE TRANSPORTATION PLAN IMPLEMENTATION. IMPLEMENT CLASS II AND III BIKE FACILITIES IDENTIFIED IN THE CITY OF REDONDO BEACH'S ADOPTED BICYCLE TRANSPORTATION PLAN. APPROXIMATELY 2.1 CENTERLINE MILES OF BIKE LANES AND 15.8 CENTERLINE MILES OF BIKE ROUTES THROUGHOUT THE CITY OF REDONDO BEACH.	6/30/2017
SAN GABRIEL VALLEY COG	LA990359	GRADE SEP XINGS SAFETY IMPR; 35- MI FREIGHT RAIL CORR. THRGH SAN.GAB. VALLEY - EAST. L.A. TO POMONA ALONG UPRR ALHAMBRA &L.A. SUBDIV - ITS 2318 SAFETEA #2178;1436 #1934 PPNO 2318. NOGALES(LA) PROJECT INCLUDES WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF E.WALNUT DRIVE NO. EAST OF NOGALES FOR 2600 LINEAR FEET AND WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF GALE AVE. WEST OF NOGALES FOR 1900 LINEAR FEET.	6/30/2018
SANTA CLARITA	LAF3535	CITYWIDE WAYFINDING PROGRAM FOR PEDESTRIANS AND BICYCLISTS. DIRECT USERS TO METROLINK STATIONS AND OTHER REGIONAL TRIP GENERATORS, DESIGN AND INSTALL WAYFINDING SIGNS ALONG THE CITY'S EXISTING	12/31/2017

Attachment A: Committed Transportation Control Measures (TCMs)

Los Angeles County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
		NETWORK OF MULTI-USE PATHS, ON-STREET BIKEWAYS, PASEOS IN THE VALENCIA AND SAUGUS NEIGHBORHOODS, AND SIDEWALKS ALONG MOST MAJOR ROADWAYS.	
SANTA CLARITA	LAF3300	ITS PHASE IV INTERCONNECT GAP CLOSURE AND SIGNAL SYNCH. THIS PROJECT INVOLVES RE-SYNCHRONIZING TRAFFIC SIGNALS ON ARTERIALS, DEPLOYING AN ADAPTIVE SIGNAL SYSTEM, AND A REDUNDANT FIBER-OPTIC INTERCONNECT SYSTEM. (APROX. 40+ SIGNALS)	12/31/2017
SANTA MONICA	LAF3703	A 'NO NET NEW TRIPS' RIDESHARE TOOLKIT. DEVELOP A TDM TOOLKIT WITH ONLINE MULTI-MODAL MOBILITY INFORMATION, BIKE ACCOMMODATIONS, 300 WALKING-ROLLING CARTS, 75 BIKE LOCKERS & INCENTIVE PROGRAMS FOR EMPLOYERS, SCHOOLS & NEIGHBORHOODS. WITHIN THE CITY OF SANTA MONICA IN DEMAND MANAGEMENT AREAS AS DEFINED IN THE LAND USE AND CIRCULATION ELEMENT (LUCE) ADOPTED JULY 2010.	6/30/2016
SANTA MONICA	LAF3505	BIKE NETWORK LINKAGES TO EXPOSITION LIGHT RAIL PROJECT. BIKE NETWORK ENHANCEMENTS TO SUPPORT EXPOSITION LINE. INCREASED SAFETY AND CONVENIENCE WITH SIGNAL DETECTION, HIGHLY VISIBLE LANE MARKINGS AND NEW BIKE RACKS. THE PROJECT AREA IS LOCATED THROUGHOUT THE CITY OF SANTA MONICA AND NO MORE THAN TWO MILES FROM THE PROPOSED EXPOSITION LIGHT RAIL LINE STATIONS.	12/31/2016
SANTA MONICA	LAF5524	IMPLEMENTATION OF A SANTA MONICA BIKE-SHARE PROGRAM, INCLUDING THE PURCHASE AND INSTALLATION OF 250 BIKES AND 25 DOCKING STATIONS TO BE LOCATED AT ACTIVITY NODES AND TRANSIT STATIONS (INCLUDING EXPO LRT STATIONS). TWO VEHICLES WILL BE ACQUIRED AND OUTFITTED TO TRANSPORT AND REDISTRIBUTE BICYCLES BETWEEN STATIONS AS NEEDED. THE BIKE-SHARE DOCKING STATIONS WILL BE SOLAR POWERED WHERE APPROPRIATE AND INCLUDE A TECHNOLOGY PLATFORM FOR SYSTEM OPERATION THROUGH THE WEB AND SMART PHONE APPLICATIONS.	6/30/2019
TORRANCE	LA0G358	SOUTH BAY REGIONAL INTERMODAL TRANSIT CENTER PROJECT AT 465 N. CRENSHAW BLVD., TORRANCE, CA 90503.	12/31/2016
WHITTIER	LA0G257	WHITTIER GREENERY TRAILHEAD PARK. EXTENSION OF WHITTIER GREENERY TRAIL FROM MILLS AVENUE TO 300 FEET EAST OF MILLS AVENUE IN CONJUNCTION WITH CONSTRUCTION OF NEW TRAILHEAD PARK AND 20 SPACE PARK & RIDE PARKING LOT.	9/30/2017

Attachment A: Committed Transportation Control Measures (TCMs)

Orange County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
ANAHEIM	ORA112622	BROOKHURST ST (600' NORTH OF I-5 TO SR-91). ADD ONE LANE EACH DIRECTION. FROM 4 TO 6 LANE FACILITY WITH RAISED MEDIAN. THE PROJECT WILL INCLUDE SIX-FOOT-WIDE CLASS II BIKEWAYS, TEN-FOOT WIDE PARKWAYS/SIDEWALKS AND CONCRETE SOUNDWALLS ALONG THE EAST AND/OR WEST SIDES OF BROOKHURST ST. CONSISTENT WITH THE 2012 RTP	6/30/2017
BREA	ORA150103	THE TRACKS AT BREA SEGMENTS 2 & 3. CONSTRUCTION CLASS I BICYCLE/PEDESTRIAN TRAIL ALONG 1.15 MILE LONG SECTION ON THE TRACKS AT BREA. SEGMENT 2 FROM BREA FLOOD CONTROL CHANNEL TO NORTH BREA BOULEVARD. SEGMENT 3 FROM NORTH BREA BOULEVARD TO STATE COLLEGE BOULEVARD.	7/30/2017
CYPRESS	ORA131706	CERRITOS AVENUE BIKE CORRIDOR IMPROVEMENTS (FROM DENNI STREET TO WALKER STREET) - CONSTRUCT AN OFF-ROAD BIKE PATH TO REPLACE AN EXISTING ON-STREET BIKE ROUTE TO IMPROVE SAFETY AND CONNECTIVITY. CLASS 1 FOR 1 MILE. TOLL CREDITS: FY 15/16 CMAQ CON FOR $9,405, FY 15/16 ATP-MPO CON FOR $72,490.	7/1/2017
LA HABRA	ORA113011	LA HABRA UNION PACIFIC RAILROAD BIKEWAY. ENG FOR UNION PACIFIC RAILROAD RIGHT-OF-WAY BETWEEN LA HABRA WEST CITY LIMITS AND LA HABRA EAST CITY LIMITS. ROW FOR LA HABRA WEST CITY LIMITS TO BEACH BOULEVARD. TOLL CREDIT MATCH: FY15/16 CMAQ CON FOR $10,552, FY15/16 ATP-MPO CON FOR $81,235.	7/1/2025
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA085004	ANAHEIM CANYON STATION PROJECT WILL ADD DOUBLE TRACK AND ANOTHER PLATFORM AS WELL AS EXTEND THE EXISTING PLATFORM TO BE IN CONFORMANCE WITH THE METROLINK STANDARDS FOR PASSENGER PLATFORM LENGTH. (PROJECT UTILIZES $1,812,260 IN TOLL CREDIT IN FY15/16 FOR CON, & $400,200 IN STATEWIDE TOLL CREDIT FOR FTA 5337 FY14/15 FOR CON)	7/23/2020
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA111001	INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF PACIFIC COAST HIGHWAY TO SAN JUAN CREEK ROAD. PPNO:2531F	12/13/16
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA111002	INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF AVENIDA VISTA HERMOSA TO SOUTH OF PACIFIC COAST HIGHWAY. PPNO 2531E	10/26/16
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA65002	RIDESHARE SERVICES RIDEGUIDE, DATABASE, CUSTOMER INFO, AND MARKETING (ORANGE COUNTY PORTION).	12/30/2020

Attachment A: Committed Transportation Control Measures (TCMs)

Orange County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA990929	INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF AVENIDA PICO TO SOUTH OF AVENIDA VISTA HERMOSA AND RECONFIGURE AVENIDA PICO INTERCHANGE. PPNO:2531D (UTILIZE TOLL CREDIT MATCH FOR IMD AND STIP)	11/1/17
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA111209	LAGUNA NIGUEL TO SAN JUAN CAPISTRANO PASSING SIDING - ADD 1.8 MILES OF NEW RAILROAD TRACK ADJACENT TO THE EXISTING MAIN TRACK. MP 193.9 - MP 195.7 (PROJECT WILL UTILIZE TRANSIT DEVELOPMENT CREDITS MATCH - CMAQ FY13/14 FOR $438 AND FY14/15 FOR $1,832)	1/21/2020
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA111801	I-5 (ALICIA PARKWAY TO EL TORO ROAD) SEGMENT 3 - THE PROJECT WILL ADD ONE GENERAL PURPOSE LANE ON THE I-5 IN EACH DIRECTION BETWEEN ALICIA PARKWAY AND EL TORO ROAD (APPROXIMATELY 1.7 MILES), EXTEND THE 2ND HOV LANE IN BOTH DIRECTIONS AND ADD AUXILIARY LANES WHERE NEEDED.	6/30/2023
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA030612	PLACENTIA TRANSIT STATION - E OF SR-57 AND MELROSE ST AND N OF CROWTHER AVE. CONSTRUCT NEW METROLINK STATION AND RAIL SIDEING PPNO 9514	6/30/2018
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110304	GOLDENWEST TRANSPORTATION CENTER. CONSTRUCT A SURFACE PARKING LOT (300 SPACES)	4/30/2016
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA111210	I-5 FROM SR 55 TO SR 57 - ADD 1 HOV LANE EACH DIRECTION	12/1/2018
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA112702	RIDESHARE VANPOOL PROGRAM - CAPITAL LEASE COST FY12/13 - FY16/17. (USE TOLL CREDITS FOR $1.338 IN FY12/13)	1/31/2017
SANTA ANA	ORA131709	NEWHOPE-CIVIC CENTER-GRAND CLASS II BIKE LANES PROJECT - CLASS II 0.45 MILE ON NEWHOPE STREET FROM FIRST STREET TO MCFADDEN AVENUE. CLASS II 0.87 MILE SEGMENT ON CIVIC CENTER DRIVE FROM BRISTOL TO BROADWAY. CLASS II 1.25 MILE SEGMENT ON GRAND AVENUE FROM 21ST STREET TO FAIRHAVEN AVENUE. TOLL CREDITS FY 14/15 CON FOR $31,349.	7/1/2017
SANTA ANA	ORA150106	DEVELOP, DESIGN, AND CONSTRUCT BISHOP-PACIFIC-SHELTON BIKE BOULEVARDS. CONSTRUCT CLASS III FACILITIES ALONG BISHOP STREET, PACIFIC AVENUE, AND SHELTON STREET. DEVELOPMENT, DESIGN, AND CONSTRUCTION. INCLUDES BULB OUTS, TRAFFIC CIRCLES, AND TRAFFIC TURNING RESTRICTIONS AND/OR SPEED BUMPS. IMPROVEMENTS ALONG 2.268 MILES OF BIKEWAYS. TOLL CREDITS FOR FY 14/15 PA&ED/PS&E FOR $8,029, FY 15/16 CON FOR $100,936.	12/31/2017
TCA	10254	SAN JOAQUIN HILLS TRANSPORTATION CORRIDOR (SJHTC – SR 73). 15 MI TOLL RD BETWEEN 1-5 IN SAN JUAN CAPISTRANO & RTE 73 IN IRVINE, CONSISTENT WITH SCAG/TCA MOU 4/5/01. EXISTING 3 M/F EA DIR. 1 ADDITIONAL M/F EA DIR, PLUS CLIMBING & AUX LANES BY 2020.	12/31/2020

Attachment A: Committed Transportation Control Measures (TCMs)

Orange County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
TCA	ORA050	EASTERN TRANSPORTATION CORRIDOR (ETC- SR 241/261/133) 26.4 MI TOLL ROAD CONNECTS SR 91 TO I-5 VIA SR 261 AND SR 133, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F EA DIR. 2 ADDITIONAL M/F IN EA DIR, PLUS CLIMBING AND AUX LANES BY 2020.	12/31/2020
TCA	ORA051	FOOTHILL TRANSPORTATION CORRIDOR-NORTH (FTC-N - SR 241). 12.7 MI TOLL ROAD BETWEEN OSO PKWY AND ETC, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F IN EA DIR. 2 ADDITIONAL M/F, PLS CLIMBING & AUX LANES BY 2020.	12/31/2020
TCA	ORA052	FOOTHILL TRANSPORTATION CORRIDOR-SOUTH (FTC-S - SR 241). 10.3 MI TOLL ROAD BETWEEN SAN DIEGO COUNTY LINE AND OSO PKWY, CONSISTENT WITH SCAG/TCA MOU 4/05/01. 2 M/F EA DIR FROM OSO PKWY TO COW CAMP RD BY 2017. 2 M/F EA DIR FROM COW CAMP RD TO SAN DIEGO CO LINE BY 2021. 1 ADDITIONAL M/F EA DIR PLS CLIMBING & AUX LANES BY 2030.	2021/2030
VARIOUS AGENCIES	ORA150602	ABRAZAR - 2 MEDIUM EXPANSION BUSES, 7 EXPANSION MINIVANS, AND 6 SMALL EXPANSION BUSES. (TRANSIT DEVELOPMENT CREDITS MATCH – FTA 5310 FY14/15 FOR $163)	4/30/2017

Attachment A: Committed Transportation Control Measures (TCMs)

Riverside County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
MORENO VALLEY	RIV151202	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - DESIGN AND CONSTRUCTION OF ITS, INCLUDING AN ETHERNET FIBER-OPTIC BACKBONE SYSTEM, CCTV CAMERAS AT 26 KEY INTERSECTIONS, AND NEW TRAFFIC SIGNAL CONTROLLERS AT EXISTING 43 SIGNALIZED INTERSECTIONS (CMAQ PM 2.5 BENEFITS .21 KG/DAY)	12/31/2016
PERRIS	RIV140850	IN WESTERN RIVERSIDE CO. IN THE CITY OF PERRIS – MURRIETA RD PED IMPROVEMENTS: INSTALL 1.0 MILE OF SIDEWALK GAPS, CURB & GUTTER ON W-SIDE OF MURRIETA RD W/ CLASS II BIKE LANES IN BOTH DIRECTIONS B/W SAN JACINTO AVE & 1000' NORTH OF NUEVO RD; 10' WIDE BRIDGE OVER METZ FLOOD CONTROL CHANNEL; TRAFFIC SIGNAL AT MURRIETA & NUEVO RDS; NEW SIDEWALK ON DALE ST B/W WILSON & MURRIETA RD. TC TO MATCH ATP	12/31/2020
RIVERSIDE COUNTY	RIV140838	IN WESTERN RIVERSIDE CO. FOR THE COUNTY OF RIVERSIDE IN MEAD VALLEY-CLARK ST S/W & INTERSECTION SAFETY IMPROVEMENTS: ON EASTSIDE OF CLARK ST B/W RIDER ST AND CAJALCO RD, CONSTRUCT APPROX. 2,000 L.F. OF CONCRETE SIDEWALK, CURB & GUTTER, PAVEMENT IMPROVEMENTS, NEW CURB RAMPS MEETING LATEST ADA REQS, DRIVEWAY APPROACHES, SIGNS, MARKINGS, & OTHER INCIDENTAL ITEMS TO IMPROVE PEDESTRIAN SAFETY.	12/31/2021
RIVERSIDE COUNTY	RIV151210	IN WESTERN RIVERSIDE COUNTY FOR THE COUNTY OF RIVERSIDE - CONSTRUCTION OF A 7.2 MILE MULTI-MODAL URBAN TRAIL ALONG THE SALT CREEK FLOOD CONTROL CHANNEL BETWEEN THE COMMUNITIES OF HEMET, MENIFEE AND CANYON LAKE. THE MULTI-MODAL TRAIL WILL INCLUDE A 16 FT WIDE CLASS I BIKEWAY AND 12 FT WIDE DECOMPOSED GRANITE PEDESTRIAL TRAIL	12/31/2018
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV071250	ON SR-91/I-15: SR91 - CONST 1 MF LN (SR71-I15)/1 AUX LN VAR LOCS(SR241-PIERCE) (OC PM 14.43-18.91), CD SYSTEM (2/3/4 LNS MAIN-I15), 1 TOLL EXPR LN (TEL) & CONVERT HOV TO TEL EA DIR (OC-I15); I15- CONST TEL MED DIR CONNCT NB15 TO WB91 AND EB91 TO SB15, 1 TEL EA DIR SR91 DIR CONNCT-ONTARIO IC (I15 PM 37.56-42.94).	9/4/2017
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV111207	IN WESTERN RIVERSIDE COUNTY - CONTINUE THE IMPLEMENTATION OF PARK-N-RIDE FACILITIES THROUGH PROPERTY LEASES (VARIOUS LOCATIONS THROUGHOUT THE WESTERN COUNTY).	12/30/2018
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV520111	REGIONAL RIDESHARE - CONTINUING PROGRAM ($115.73 IN FY12/13 AND $193.96 IN FY 13/14 IN TOLL CREDITS UTILIZED TO MATCH CMAQ IN CONS).	6/30/2018
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV071267	I-15 IN RIVERSIDE COUNTY: CONSTRUCT 4 TOLL EXPR LNS (TEL) (2 TE EA DIR) FROM SR60 (PM 51.4) TO HIDDEN VALLEY PKWY (PM 42.9) AND CONS 2 TE LNS (1 TE EA DIR) FROM HIDDEN VALLEY PKWY (PM 42.9) TO CAJALCO RD (PM 36.8). ADVANCE SIGNAGE WILL BE INSTALLED A THE SOUTH END BETWEEN PM 34.7 TO PM 36.8 (CAJALCO RD) AND AT THE NORTH END BETWEEN PM 51.4 (SR60) TO PM 1.3 IN SAN BERNARDINO COUNTY.	12/31/2020
RIVERSIDE TRANSIT AGENCY	RIV151211	IN WESTERN RIVERSIDE COUNTY FOR RTA: RAPIDLINK SERVICE ALONG THE RTE 1 SERVICE AREA DURING WEEKDAY PEAK COMMUTE PERIODS ALONG UNIVERSITY AND MAGNOLIA AVES (RIVERSIDE/CORONA CORRIDOR) BETWEEN UCR AND	12/31/2020

Attachment A: Committed Transportation Control Measures (TCMs)

Riverside County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
		CORONA. THIS INCLUDES PURCHASE OF 14 NEW BUSES (40 FT) AND OPERATING ASSISTANCE FOR THE FIRST THREE TO FIVE YEARS OF SERVICE. (CMAQ - $9,212K) (BENEFITS FOR PM 2.5 = .239 KG/DAY; PM 10 = .258 KG/DAY)	
RIVERSIDE, CITY OF	RIV140841	IN WESTERN RIVERSIDE COUNTY FOR CITY OF RIVERSIDE-IOWA AVE & MLK BLVD BIKE IMPROVEMENTS: CONSTRUCT 0.8 MI 10 FT WIDE TWO DIR MULTI-USE PATH ON N.SIDE OF MLK BLVD B/W CANYON CREST DR & CHICAGO AVE & WIDENING IOWA AVE B/W MLK BLVD & EVERTON PL INCLUDES GRADING, ASPHALT PAVING, SIGNS, & RESTRIPING & INSTALL 6 FT CLASS II BIKE LNS FOR 0.8 MI WITH 2 FT BUFFERS	12/31/2020
RIVERSIDE, CITY OF	RIV140843	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE-WELLS/ARLANZA SIDEWALK IMPROVEMENTS: INSTALL ADA RAMPS, DRIVEWAY APPROACHES & 32,730 SQ FT OF SIDEWALK ON ONE SIDE OF FIVE STREETS (CHALLEN AVE, IVANHOE AVE, KENT AVE, RUTLAND AVE, BABB AVE) SURROUNDING WELLS MIDDLE SCHOOL AND ARLANZA ELEMENTARY SCHOOL. TC USED TO MATCH ATP FUNDS	12/31/2020
RIVERSIDE, CITY OF	RIV140844	IN WESTERN RIVERSIDE CO. IN THE CITY OF RIVERSIDE - NORTE VISTA SIDEWALK IMPROVEMENTS: INSTALL ADA RAMPS, DRIVEWAY APPROACHES & 94,200 SQ.FT. OF SIDEWALK ON ONE SIDE OF FOUR STREETS (GAYLORD ST, JONES AVE, CHADBOURNE AVE, BUSHNELL AVE) NEAR NORTE VISTA HIGH SCHOOL, ROSEMARY KENNEDY ELEMENTARY SCHOOL, AND TWINHILL ELEMENTARY SCHOOL. TC USED TO MATCH ATP	12/31/2020
RIVERSIDE, CITY OF	RIV140852	IN WESTERN RIVERSIDE CO. IN THE CITY OF RIVERSIDE – DOWNTOWN & ADJOINING AREAS BICYCLE AND PED IMPROVEMENTS: 17 MILES OF BIKE LANES, 2,500 FT. OF CONNECTING SIDEWALKS, BIKE STATION AT METROLINK, CONNECTIVITY MAP KIOSKS, TWO NEW HAWK SIGNALS, BIKE STAGING AREA, BIKE SHARE TERMINAL, BIKE CORRALS, BIKE BLVD, PEDESTRIAN SIGNALS, WALKING PATH, ALL-WAY STOP CROSSWALK & NEW SIDEWALK.	12/31/2020
RIVERSIDE, CITY OF	RIV151205	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - INSTALL FIBER-OPTIC SIGNAL INTERCONNECT IMPROVEMENTS ON MARKET ST/MAGNOLIA AVE FROM FIRST ST TO BUCHANAN ST AND INSTALL MISSING CONDUITS ON MAGNOLIA AVE FROM LA SIERRA AVE TO PIERCE ST UPDATING 49 SIGNALIZED INTERSECTIONS	12/31/2016
RIVERSIDE, CITY OF	RIV151209	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - INSTALL UP TO FOUR BICYCLE STATIONS AND PROVIDE FORTY BICYCLES, TEN AT EACH STATION, TO IMPLEMENT A BIKE SHARE PROGRAM IN THE VICINITY OF DOWNTOWN RIVERSIDE, RIVERSIDE METROLINK STATION AND UNIVERSITY OF CALIFORNIA IN RIVERSIDE.	12/31/2016

Attachment A: Committed Transportation Control Measures (TCMs)

Riverside County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
RIVERSIDE, CITY OF	RIV151215	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - CONSTRUCTION OF SIDEWALK ON ONE SIDE OF BRUCE STREET FROM ADAIR AVE TO LAKE AVE. IMPROVEMENTS INCLUDE A TOTAL OF 2,100 LF OF NEW SIDEWALK	10/31/2016
SAN JACINTO	RIV140856	IN WESTERN RIVERSIDE CO. IN THE CITY OF SAN JACINTO – SAFE & ACTIVE SAN JACINTO SRTS: INFRASTRUCTURE INCLUDES 33,275 SQ. FT. OF NEW SIDEWALK, 5,215 SQ. FT. OF EXISTING SIDEWALK UPGRADES, 52,800 SQ. FT. OF BIKE TRAILS WITHIN WALKING DISTANCE TO SCHOOLS; NON-INFRASTRUCTURE INCLUDES PED/BIKE SAFETY EDUCAITON, SRTS WORKSHOPS, DEVELOPMENT OF SRTS PLANS FOR EACH SCHOOL, AND OUTREACH.	12/31/2020
TEMECULA	RIV62029	IN SOUTHWEST RIVERSIDE COUNTY IN TEMECULA ON TEMECULA PKWY (FORMERLY SR79) AT LA PAZ ST: ACQUIRE LAND, DESIGN AND CONSTRUCT PARK-AND-RIDE LOT - 157 SPACES. OTHER IMPROVEMENTS INCLUDE THE CONSTRUCTION OF 10 BICYCLE LOCKERS, PASSENGER LOAD/UNLOAD ZONE AND ADA ACCESSIBLE PARKING.	9/1/2016
WILDOMAR	RIV151213	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF WILDOMAR - WIDENING OF GRAND AVE (CLINTON KEITH RD TO DAVID BROWN MIDDLE SCHOOL) TO INCLUDE A CLASS II BIKE LANE AND MINIMAL WORK TO INCORPORATE CLASS II/III BIKE LANES ON CLINTON KEITH RD FROM GRAND AVE TO GEORGE AVE. IMPROVEMENTS INCLUDE A TOTAL OF 7,300 LF OF NEW BIKE LANES	8/31/2016
WILDOMAR	RIV151214	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF WILDOMAR - WIDENING OF GRAND AVE (CORYDON RD TO DAVID BROWN MIDDLE SCHOOL) TO INCLUDE A CLASS II BIKE LANES. IMPROVEMENTS INCLUDE A TOTAL OF 12,000 LF OF NEW BIKE LANES	8/31/2016

Attachment A: Committed Transportation Control Measures (TCMs)

San Bernardino County			
Lead Agency	**Project ID**	**Project Description**	**Completion Date**
RIALTO	200450	RIALTO METROLINK STATION - INCREASE PARKING SPACES FROM 225-775	6/30/2016
SANBAG	20061012	DOWNTOWN S.B. PASSENGER RAIL – FROM SAN BERNARDINO METROLINK STATION TO APPROX. 1 MILE EAST TO A NEW TRANSIT STATION AT RIALTO AVE AND E ST. IN DOWNTOWN SAN BERNARDINO	8/30/2016
SANBAG	2011150	SOUTH COAST AIR BASIN RIDESHARE PROGRAM (TOLL CREDITS ARE BEING USED AS MATCH FOR CMAQ IN FY14/15 FOR $233)	12/1/2019
SANBAG	20150108	BICYLE AND PEDESTRIAN ACCESSIBILITY IMPROVEMENTS ALONG SIX METROLINK TRANSIT STATIONS (MONTCLAIR, UPLAND, RANCHO CUCAMONGA,FONTANA, RIALTO, AND SAN BERNARDINO) PHASE I. (TOLL CREDIT TO MATCH ATP IN ALL PHASES)	12/31/2021
OMNITRANS	20150109	PEDESTRIAN & BICYCLE ACCESS IMPROVEMENTS WITHIN 1/2 MILE OF RAPID TRANSIT STATIONS, INCLUDING SIDEWALK AND CURB RAMP REPLACEMENT & BIKE PARKING AT STATIONS (TERMINI AT POMONA DOWNTOWN METROLINK STATION & KAISER MEDICAL CENTER FONTANA, FOLLOWING HOLT AVE/BLVD, ARCHIBALD AVE, MILLIKEN AVE, FOOTHILL BLVD, & SIERRA AVE).	7/3/12019

Note: Projects may include TCM and non-TCM portions. Committed TCMs include only that portion of the projects that meets the definition of TCMs.

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 1. Programs for Improved Public Transit					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
1.1	Regional Express Bus Program	Purchase of buses to operate regional express bus services.	Yes		CTCs (MTA, OCTA), Transit Operators
1.2	Transit access to airports	Operation of transit to airport to serve air passengers.	Yes		Transit Operators, Burbank Glendale Pasadena Airport, CTCs (MTA, SCRRA)
1.3	Accelerate Bus Retrofit Program	Accelerate application of retrofit of diesel-powered buses to achieve earlier compliance with state regulations.	Yes		CTCs (MTA, OCTA), Transit Operators
1.4	Mass transit alternatives	Major change to the scope and service levels.	Yes		SCAG, CTCs
1.5	Expansion of public transportation systems	Expand and enhance existing public transit services.	Yes		CTCs
1.6	Transit service improvements in combination with park-and-ride lots and parking Management	Local jurisdictions and transit agency improve the public transit system and add new park-and-ride facilities and spaces on an as needed basis.	Yes		CTCs (MTA, SCRRA)

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 1. Programs for Improved Public Transit					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
1.7	Free transit during special events	Require free transit during selected special events to reduce event-related congestion and associated emission increases.	No *(The Mobile Source Air Pollution Reduction Review Committee has been co-funding free event center shuttle service demonstration projects)*	The Legislature significantly reduced authority of SCAQMD to implement indirect source control measures through revisions to the Health & Safety Code (HSC 40717.8). Transit agencies should decide individually whether this measure is economically feasible for them.	
1.8	Require that government employees use transit for home to work trips, expand transit, and encourage large businesses to promote transit use	Require all government employees use transit a specified number of times per week, or expand transit, and encourage business to promote transit use.	Yes		CTCs
1.9	Increase parking at transit centers or stops	Encourage transit convenience by providing additional parking at transit centers.	Yes		CTCs
1.10	Expand regional transit connection ticket distribution	Provides interchangeability of transit ticket.	Yes		CTCs, Metrolink
1.11	Bus Signal Priority	Wireless bus signal priority system on bus fleets for increased operation efficiency and travel time savings.	Yes		Transit Agencies

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 1. Programs for Improved Public Transit					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
1.12	Passenger rail improvements	Installation of additional platforms, double tracks, concrete ties, bridges, signal relocation.	Yes		Cities, MTAs
1.13	Alternative Fuel Buses	Self-explanatory.	Yes		Cities, Transit Agencies
1.14	Intermodal Centers	Improved transit connection of various travel modes	Yes		Cities, Transit Agencies
1.15	Maglev	Construct regional low-speed magnetic levitation transit	No	Though considered in past South Coast transportation plans, Maglev has never been a committed TCM; in addition, the region is already being serviced by light rail	
1.16	High Speed Rail	Construct high speed rail connecting large metropolitan centers in the state	Yes		HSRA

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 2. Restriction of Certain Roads or Lanes to, or Construction of Such Roads or Lanes for Use By, Passenger Buses or High Occupancy Vehicles					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
2.1	Update High Occupancy Vehicle (HOV) Lane Master Plan	Analysis of increased enforcement, increasing occupancy requirements, conversion of existing HOV lanes to bus only lanes and/or designation of any new carpool lanes as bus-only lanes; utilization of freeway shoulders for peak-period express bus use; commercial vehicle buy-in to HOV lanes; and appropriateness of HOV lanes for corridors that have considered congestion pricing or value pricing.	Yes		SCAG, Caltrans, CTCs
2.2	Fixed lanes for buses and carpools on arterials	Provide fixed lanes for buses and carpools on arterial streets where appropriate.	Yes		CTCs (MTA, OCTA), LA City
2.3	Expand number of freeway miles available, allow use by alternative fuel vehicles, changes to HOV lane requirements and hours	Various measures evaluated in many ozone nonattainment areas. Specifics vary according to freeway system, use patterns and local characteristics.	Yes		CARB, Caltrans
2.4	Express toll lanes/High Occupancy Toll (HOT) Lanes	Self-explanatory.	Yes		Caltrans, CTCs

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
3.1*	Commute solutions	The federal law that complements parking cash-out is called the *Commuter Choice Program*. It provides for benefits that employers can offer to employees to commute to work by methods other than driving alone.	Yes		Employer, SCAQMD
3.2*	Parking cash-out	State law requires certain employers who provide subsidized parking for their employees to offer a cash allowance in lieu of a parking space.	Yes		Employer, SCAQMD
3.3*	Employer Rideshare Program Incentives	Employer rideshare incentives and introduction of strategies designed to reduce single occupant vehicle trips. Examples include: employee awareness campaigns, Transportation Management Associations (TMA) membership, alternative work hours, and financial incentives.	Yes		Employer, SCAQMD
3.4*	Implement Parking Charge Incentive Program	Evaluate feasibility of an incentive program for cities and employers that convert free public parking spaces to paid spaces. Review existing parking polices as they relate to new development approvals.	Yes		Cities, Counties, Employer

* *This measure relates to SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Administered by AQMD, Rule 2202 provides a menu of options for employers in choosing how they will comply. Individual employers implement the mitigation option(s) that they have chosen.*

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
3.5*	Preferential parking for carpools and vanpools	This measure encourages public and private employers to provide preferential parking spaces for carpools and vanpools to decrease the number of single occupant automobile work trips. The preferential parking could include covered parking spaces or close-in spaces.	Yes		Employer, SCAQMD
3.6*	Employee parking fees	Encourage public and private employers to charge employees for parking.	Yes		Employer, SCAQMD
3.7	Merchant transportation incentives	Implement "non-work" trip reduction ordinances requiring merchants to offer customers mode shift travel incentives such as free bus passes and requiring owners/managers/developers of large retail establishments to provide facilities for non-motorized modes.	No	Require state legislation.	
3.8*	Purchase/lease/third-party vans for vanpool programs	Provide a specified number of vans for use in employee commute travel.	Yes		Employer, SCAQMD

* *This measure relates to SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Administered by AQMD, Rule 2202 provides a menu of options for employers in choosing how they will comply. Individual employers implement the mitigation option(s) that they have chosen.*

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 3. Employer-Based Transportation Management Plans, Including Incentives					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
3.9*	Encourage merchants and employers to subsidize the cost of transit for employees	Provide outreach and possible financial incentives to encourage local employers to provide transit passes or subsidies to encourage less individual vehicle travel.	Yes		Employer, SCAQMD
3.10*	Compressed work weeks	Work 80 hours in 9 days, or 40 hours in 4 days, or 36 hours in 3 days in lieu of working 40 hours in 5 days.	Yes		Employer, SCAQMD
3.11*	Telecommuting	Goal of specified percentage of employees telecommuting at least one day per week.	Yes		Employer, SCAQMD
3.12	Income Tax Credit to Telecommuters	Provide tax relief to employees who participate in telecommuting programs.	No	Requires State legislation.	

* *This measure relates to SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Administered by SCAQMD, Rule 2202 provides a menu of options for employers in choosing how they will comply. Individual employers implement the mitigation option(s) that they have chosen.*

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 4. Trip Reduction Ordinance
In December 1995, Congress changed the Clean Air Act Amendments to make the Employee Commute Option program voluntary (no longer mandatory). California State Law prohibits mandatory employer based trip reduction ordinance programs (SB437). (HSC 40717.9) To account for these restrictions, SCAQMD Rule 2202 provides employers with a menu of options to reduce mobile source emissions generated from employee commutes. Rule 2202 complies with federal and state Clean Air Act requirements, HSC 40458, and HSC 182(d)(1)(B) of the federal Clean Air Act. Nevertheless, some jurisdictions continue to implement Trip Reduction Ordinances. For example, the City of Santa Monica requires new and existing non-residential development projects to adopt Emission Reduction Plans and pay transportation impact fees to reduce traffic congestion and improve air quality in the city.

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
5.1	Develop Intelligent Transportation Systems	The term "Intelligent Transportation Systems" includes a variety of technological applications intended to produce more efficient use of existing transportation corridors.	Yes		CTCs, Caltrans
5.2	Coordinate traffic signal systems	This measures implements and enhances synchronized traffic signal systems to promote steady traffic flow at moderate speeds.	Yes		CTCs, Counties, and Cities
5.3	Reduce traffic congestion at major intersections	This measure implements a wide range of traffic control techniques designed to facilitate smooth, safe travel through intersections. These techniques include signalization, turn lanes or median dividers. The use of grade separations may also be appropriate for high volume or unusually configured intersections.	Yes		CTCs, Counties, and Cities
5.4	Site-specific transportation control measures	This measure could include geometric or traffic control improvements at specific congested intersections or at other substandard locations. Another example might be programming left turn signals at certain intersections to lag, rather than lead, the green time for through traffic.	Yes		CTCs, Counties, and Cities
5.5	Removal of on-street parking	Require all commercial/industrial development to design and implement off-street parking.	Yes		CTCs, Counties, and Cities

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
5.6	Reversible lanes	Implement reversible lanes on arterial streets to improve traffic flow where appropriate.	Yes		CTCs, Counties, and Cities
5.7	One-way streets	Redesignate streets (or portions of in downtown areas) as one-way to improve traffic flow.	Yes		CTCs, Counties, and Cities
5.8	On-Street parking restrictions	Restrict on-street parking where appropriate.	Yes		CTCs, Counties, and Cities
5.9	Bus pullouts in curbs for passenger loading	Provide bus pullouts in curbs, or queue jumper lanes for passenger loading and unloading.	Yes		CTCs, Counties, and Cities
5.10	Additional freeway service patrol	Operation of additional lane miles of new roving tow truck patrols to clear incidents and reduce delay on freeways during peak periods.	Yes		CTCs, CHP
5.11	Fewer stop signs, remove unwarranted and "political" stop signs and signals	Improve flow-through traffic by removing stop signs and signals. Potential downside in safety issues.	Yes		CTCs, Counties, and Cities
5.12	Ban left turns	Banning all left turns would stop the creation of bottlenecks although slightly increase travel distances.	No	No clear demonstration of emission reduction benefits.	
5.13	Changeable lane assignments	Increase number of one-way lanes in congested flow direction during peak traffic hours.	Yes		Caltrans, CTCs, Counties, and Cities

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
5.14	Adaptive traffic signals and signal timing	Self-explanatory.	Yes		Counties, Counties, and Cites
5.15	Freeway bottleneck improvements (add lanes, construct shoulders, etc.)	Identify key freeway bottlenecks and take accelerated action to mitigate them.	Yes		Caltrans, SCAG
5.16	Minimize impact of construction on traveling public. Have contractors pay when lanes are closed as an incentive to keep lanes open.	Prohibit lane closures during peak hours, limit work to weekends and/or nights.	Yes		Caltrans
5.17	Internet provided road and route information	Reduce travel on highly congested roadways by providing accessible information on congestion and travel.	Yes		CTCs, Caltrans, Counties, Cities
5.18	Regional route marking systems to encourage underutilized capacity	Encourage travel on local roads and arterials by better route marking to show alternatives.	Yes		Caltrans, Counties, Cities
5.19	Congestion management field team to clear incidents	Self-explanatory.	Yes		CTCs, CHP
5.20	Use dynamic message signs to direct/smooth speeds during incidents	Self-explanatory.	Yes		Caltrans
5.21	Get real-time traffic information to trucking centers and rental car agencies	Reduce travel in congested areas by providing information directly to high volume travelers.	Yes		CTCs, Caltrans

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
5.22	55 mph speed limit during ozone season	Self-explanatory	No	Reductions in freeway speeds are governed by California Vehicle Code 22354, which authorizes Caltrans to lower speeds after doing an engineering and traffic survey, which shows that the legislatively-set maximum speed of 65 mph, is more than is reasonable or safe. No consideration of emissions reductions is contemplated under this statute. This measure is not feasible until the statute is changed.	
5.23	Require 40 mph speed limit on all facilities	Depends on area's emission factors.	No	The California Vehicle Code Sections 22357 and 22358 mandates a methodology for setting speed limits for local areas. This measure is not feasible until the statute is changed.	

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 5. Traffic Flow Improvement Programs That Achieve Emissions Reductions					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
5.24	Require lower speeds during peak periods	Self-explanatory.	No	The California Vehicle Code Sections 22357 and 22358 mandates methodology for setting speed limits for local areas. This measure is not feasible until the statute is changed.	
5.25	On-street parking restrictions	Restrict on-street parking where appropriate.	Yes		State, Counties, and Cities

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 6. Fringe and Transportation Corridor Parking Facilities Serving Multiple Occupancy Vehicle Programs or Transit Service					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
6.1	Park-and-ride lots	Develop, design, and implement new park-and-ride facilities in locations where they are needed.	Yes		Caltrans, CTCs, Transit Operators, SCRRA
6.2	Park-and-ride lots serving perimeter counties	Specific to a locality.	Yes		Caltrans, CTCs, Transit Operators, SCRRA

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
7.1	Off-peak goods movement	Restrict truck deliveries by time or place in order to minimize traffic congestion during peak periods.	Yes		PierPass A non-profit organization of marine terminal operators at the Ports of Los Angeles and Long Beach.
7.2	Truck restrictions during peak periods	Restrict truck travel during peak periods in order to minimize traffic congestion.	Yes		See Measure 7.1
7.3	Involve school districts in encouraging walking/bicycling to school	Decrease vehicle emissions associated with school trips by reducing these trips through education and out-reach programs.	Yes		School Districts
7.4	Adjust school hours so they do not coincide with peak traffic periods and ozone seasons	Measure to reduce travel during peak periods and ozone-contributing periods in the early morning.	No	School hours are dictated by many variables, including overcrowding and year-round schooling. This measure is not feasible.	

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
7.5	Area-wide tax for parking	Reduce driving by limiting parking through implementation of pricing measures.	Yes		Counties, Cities
7.6	Increase parking fees	Reduce driving by limiting parking spaces through pricing measures.	No	Attorney General ruled SCAQMD lacks authority to implement this measure.	
7.7	Graduated pricing starting with highest in Central Business District (CBD)	Increase parking charge in the CBD or other high volume areas in a city to discourage vehicle travel in these areas.	Yes		Market Driven
7.8	Purchase parking lots and convert into other land uses	Limit parking by converting available parking to other land uses to discourage driving.	Yes		Counties and Cities

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
7.9	Limit the number of parking spaces at commercial airlines to support mass transit	Reduce airport travel by limits on parking at airports.	No	Regulatory agencies do not have the legal authority to make local land use decisions. It is at the discretion of the regional or local airport authority to make local land use decisions pertaining to airports. Additionally, It is necessary to have significant mass transit available at airports before this measure can be implemented.	
7.10	No CBD vehicles unless LEV, alternative fuel, or electric	Define high-use area and ticket any vehicles present unless they are low emitting, alternative fueled or electric.	No	The Legislature significantly reduced authority of the SCAQMD to implement indirect source control measures through revisions to the Health & Safety Code (40717.6, 40717.8, and 40717.9).	
7.11	Auto restricted zones	No vehicles allowed in certain areas where high emissions, congestion or contribution to ozone problems.	Yes		Counties and Cities
7.12	Incentives to increase density around transit centers	Lower travel by increasing residential and commercial density in areas near transit.	Yes		Counties and Cities

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 7. Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration Particularly During Periods of Peak Use					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
7.13	Land use/air quality guidelines	Guidelines for developments that contribute to achieving air quality goals.	Yes		CARB, SCAQMD,SCAG
7.14	Cash incentives to foster jobs/housing balance	Specific to locality – encouraged by California Clean Air Plan.	No	Has never been a committed TCM.	
7.15	Trip reduction oriented development	Land use decisions that encourage trip reductions.	Yes		Counties, Cities, CTCs
7.16	Transit oriented development	Land use decisions that encourage walkable communities and multi-modal transit systems.	Yes		Counties, Cities, CTCs
7.17	Sustainable development	Land use decisions that create equitable standards of living to satisfy the basic needs of all peoples, all while taking the steps to avoid further environmental degradation.	Yes		Counties, Cities, CTCs
7.18	Smart Parking Detection System	Utilize mobile communication devices to access the parking availability at multiple lots and provide real-time inventory of parking spaces.	Yes		Cities

Attachment B: 2016 South Coast AQMP Reasonably Available Control Measure (RACM) Analysis - TCMs

Section 108 (f) 8. Programs For the Provision of All Forms of High-Occupancy, Shared-Ride Services					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
8.1*	Financial Incentives, Including Zero-Bus Fares	Provide financial incentives or other benefits, such as free or subsidized bus passes and cash payments for not driving, in lieu of parking spaces for employees who do not drive to the workplace.	Yes		SCAQMD, Employer
8.2	Internet ride matching services	Provide match-lists, route info, hours and contact information over the internet to assist individuals in joining or developing carpools.	Yes		CTCs, Employer
8.3*	Preferential parking for carpoolers	Provide free, covered, near-building parking or parking incentives to carpoolers.	Yes		SCAQMD, Employer
8.4*	Credits and incentives for carpoolers	Self-explanatory – form depends on locality.	Yes		SCAQMD, Employer
8.5*	Employers provide vehicles to carpoolers for running errands or emergencies	Having vehicles available for workday errands makes it easier to go to work without one.	Yes		SCAQMD, Employer
8.6	Subscription services	Free van services to provide transportation for the elderly, handicapped or other individuals who have no access to transportation.	Yes		County, CTCs, Employer

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Section 108 (f) 8. Programs For the Provision of All Forms of High-Occupancy, Shared-Ride Services					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
8.7	School carpools	Self-explanatory and voluntary.	Yes		School Parents
8.8*	Guaranteed ride home	Self-explanatory.	Yes		CTCs, SCAQMD, Employer
8.9	Transit Voucher Program	Transit vouchers for elderly and low income commuters.	Yes		CTCs, Cities, Counties
8.10	Rideshare and vanpool services	Non-employer based rideshare and vanpool option near transit stations.	Yes		CTCs, Transit Agencies, Cities and Counties

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Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
9.1	Establish Auto-Free Zones and pedestrian malls	Establish auto free zones and pedestrian malls where appropriate.	Yes		Counties and Cities
9.2	Encouragement of pedestrian travel	This measure involves encouraging the use of pedestrian travel as an alternative to automobile travel. Pedestrian travel is quite feasible for short shopping, business, or school trips.	Yes		CTCs, Counties, Cities, SCAG
9.3	Bicycle/Pedestrian Program	Fund high priority projects in countywide plans consistent with funding availability.	Yes		CTCs, Counties, and Cities
9.4	Close certain roads for use by non-motorized traffic	During special events, weekends, or certain times of the day, close some roads to all but non-motorized traffic.	Yes		Counties, and Cities
9.5	Encourage bicycle travel	Promotion of bicycle travel to reduce automobile use and improve air quality. Bikeway system planning, routes for inter-city bike trips to help bicyclists avoid other, less safe facilities. Another area for potential actions is the development and distribution of educational materials, regarding bicycle use and safety.	Yes		SCAG, CTCs, Counties, Cities, and Employer

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Section 108 (f) 9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Non-Motorized Vehicles or Pedestrian Use, Both as to Time and Place					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
9.6	Free bicycles	Provide free bikes in the manner of Boulder, CO. Simple utilitarian bikes that can be used throughout the metro area and dropped off at destination for use by anyone desiring use.	No	Evidence suggests that bicycle theft is a problem in other programs and renders the measure technically and economically infeasible.	
9.7*	Cash rebates for bikes	Provide financial incentives to purchase bicycles and thereby encourage use.	Yes		Employer
9.8	Close streets for special events for bikes and pedestrians	Self-explanatory.	Yes		Counties and Cities
9.9	Use condemned dirt roads for bike trails	Self-explanatory.	No	Not applicable because there are no condemned dirt roads in the region.	

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Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
10.1*	Bike racks at work sites	Self-explanatory.	Yes		SCAQMD, Employer
10.2	Bike racks on buses	Bike racks would be placed on a to-be-determined number of buses to increase bicycle travel.	Yes		CTCs, Transit Operators, SCRRA
10.3	Regional bicycle parking	Bike Transit Centers	Yes		CTCs
10.4	Develop bicycle travel facilities	Encourages a variety of capital improvements to increase bicycle use. Off-street bikeways where high-speed roadways preclude safe bicycling. Clearly mark travel facilities with signs and provide adequate maintenance.	Yes		CTCs, Transit Operators, SCRRA
10.5	Expedite bicycle projects from RTP/SCS	Create bicycle and pedestrian master plan and build out at an accelerated rate to achieve benefits in advance of attainment deadline.	Yes		SCAG, CTCs, Counties, Cities
10.6	Provide bike/pedestrian facilities safety patrols	Self-explanatory.	Yes		Counties and Cities

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Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
10.7	Inclusion of bicycle lanes on thoroughfare projects	Self-explanatory.	Yes		State, CTCs, Counties, and Cities
10.8	Bicycle lanes on arterial and frontage roads	Self-explanatory.	Yes		State, Counties, and Cities
10.9	Bicycle route lighting	Self-explanatory.	Yes		State, Counties, Cities
10.10	Complete Streets	Install bicycle and pedestrian facilities, upgrade traffic control systems, urban design improvements, street lights and transit connections.	Yes		Cities, Counties, CTCs, Transit Agencies
10.11	Bike Share	Provide bike-share and neighborhood electric vehicle transit services in downtown areas.	Yes		Cities, Counties, Transit Agencies
10.12	Bike Purchase Incentives	Cash incentives to transit riders to purchase collapsible or electric bikes.	Yes		Cities
10.13	Longer Bike Racks on Buses	Install or modify bike rack on transit buses to accommodate up to three bikes	Yes		Transit Agencies
10.14	Greenway Network	Use riverbeds and other rights-of-way for bike and pedestrian paths to separate them from auto traffic	Yes		Cities, Counties

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Section 108 (f) 10. Programs for Secure Bicycle Storage Facilities and Other Facilities, Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
10.15	First Mile/Last Mile Program	Variety of strategies to encourage active transportation including wayfinding, sidewalk improvements, pedestrian priority signalization, and bike/pedestrian facilities near transit.	Yes		CTCs, Transit Agencies

Section 108 (f) 11. Programs to Control Extended Idling of Vehicles					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
11.1	Limit excessive car dealership vehicle starts	Require car dealers to limit the starting of vehicles for sale on their lot(s) to once every two weeks. Presently, a number of new and used car dealers start their vehicles daily to avoid battery failure and assure smooth start-ups for customer test drives.	No	This measure was investigated by the SCAQMD and it was determined that in contrast to colder climates where vehicles are started on a daily basis, vehicles in the South Coast started much less frequently. For this reason it was determined not to be technically feasible. No clear demonstration of emission reduction benefits.	

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Section 108 (f) 11. Programs to Control Extended Idling of Vehicles					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
11.2	Encourage limitations on vehicle idling	Encourage limitations to limit extended idling operations.	Yes		CARB
11.3	Turn off engines while stalled in traffic	Public outreach or police-enforced program.	No	This measure raises safety and congestion concerns. No clear demonstration of emission reduction benefits.	
11.4	Outlaw idling in parking lots	Self-explanatory and police-enforced program.	No	Enforcement of idle restrictions is a low priority for police relative to their other missions. The cost effectiveness of this measure has not been demonstrated. It is not economically feasible. No clear demonstration of emission reduction benefits.	
11.5	Reduce idling at drive-throughs; ban drive-throughs	Mandate no idling or do not allow drive-through windows during ozone season.	No	No clear demonstration of emission reduction benefits. This measure is not economically feasible.	
11.6	Promote use of pony engines	Use special battery engines to keep air conditioning and other truck systems working while truck not in use.	Yes		CARB

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Section 108 (f) 11. Programs to Control Extended Idling of Vehicles					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
11.7	Idle restrictions at airport curbsides	Self-explanatory and police-enforced.	Yes		Airport Authority
11.8	Truck Stop Electrification	Provide electric charging stations for at truck stops to power heating/AC units and other on-board equipment.	Yes		CARB

Section 108 (f) 12. Program to Reduce Motor Vehicle Emissions Consistent with Title II, Which Are Caused by Extreme Cold Start Conditions	
Not applicable. The definition of an "extreme cold start" specifies temperatures below 20 degrees Fahrenheit.	Not applicable in the South Coast - No extreme cold start conditions

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Section 108 (f) 13. Employer-sponsored programs to permit flexible work schedules					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
13.1*	Alternative work schedules	Enables workers to choose their own working hours within certain constraints. Flextime provides the opportunity for employees to use public transit, ridesharing, and other Nonmotorized transportation. A related strategy, staggered work hours, is designed to reduce congestion in the vicinity of the workplace. Alternative workweeks have been implemented extensively by large private and public employers.	Yes		SCAQMD, Employer
13.2*	Modifications of work schedules	Implement alternate work schedules that flex the scheduled shift time for employees. Encourage the use of flexible or staggered work hours to promote off-peak driving and accommodate the use of transit and carpooling.	Yes		SCAQMD, Employer
13.3*	Telecommunications-Telecommuting/Teleconferencing	Encourage telecommuting and use of telecommuting/teleconferencing equipment in place of motor vehicle use where appropriate.	Yes		SCAQMD, Employer

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Section 108 (f) 14. Programs and Ordinances to facilitate Non-automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
14.1	Areawide public awareness programs	This measure focuses on conducting ongoing public awareness programs throughout the year to provide the public with information on air pollution and encourage changes in driving behavior and transportation mode use.	Yes		SCAQMD
14.2	Special event controls	This measure would require new and existing owners/operators of the special event centers to reduce mobile source emissions generated by their events. A list of optional strategies would be available that reduce mobile source emissions.	Yes		Counties, Cities, Special Event Operators
14.3	Land Use/development alternatives	This measure includes encouraging land use patterns, which support public transit and other alternative modes of transportation. In general, this measure would also encourage land use patterns designed to reduce travel distances between related land uses	Yes		CARB, SCAG, SCAQMD, Counties, Cities
14.4	Voluntary No-Drive Day Programs	Conduct voluntary No-Drive Day Programs during the ozone season through media and employer based public awareness activities.	Yes		CTCs

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Section 108 (f) 14. Programs and Ordinances to facilitate Non-automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
14.5**	New Development Air Quality Impact Evaluation	Evaluate air quality impacts of new development and recommend or require mitigation for significant adverse impacts.	Yes		SCAQMD, Counties, Cities, CEQA Lead Agencies
14.6	Transportation for Livable Communities (TLC)/Housing Incentive program	Program provides planning grants, technical assistance, and capital grants to help cities and Nonprofit agencies define and implement transportation projects that support community plans including increased housing near transit.	Yes		SCAG, State
14.7	Incentives to increase density around transit centers	Lower travel by increasing residential and commercial density in areas near transit.	Yes		Counties, Cities, CTCs
14.8	Incentives for cities with good development practices	Provide financial or other incentives to local cities that practice air quality-sensitive development.	Yes		CTCs, Counties, Cities
14.9	Increase State gas tax	Self-explanatory.	No	Need State legislation.	

** *SCAQMD and SCAG recommend mitigation as commenting agencies on new development projects; cities and counties require mitigation under their discretionary authority as lead agency.*

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Section 108 (f) 14. Programs and Ordinances to facilitate Non-automotive travel, provision to and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
14.10	Pay-As-You-Drive Insurance	Self-explanatory.	No	Need State legislation. No clear demonstration of emission reduction benefits and does not advance attainment date..	

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Section 108 (f) 15. Programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other Non-motorized means of transportation when commercially feasible and in the public interest					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
15.1[12]	Encourage Pedestrian Travel	Promote public awareness and use of walking as an alternative to the motor vehicle.	Yes		SCAQMD, SCAG, CTCs, Counties, Cities, Employer
15.2	Pedestrian and bicycle overpasses where safety dictates	Ongoing implementation as development occurs.	Yes		Counties, Cities

[12] *This measure relates to SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Administered by SCAQMD, Rule 2202 provides a menu of options for employers in choosing how they will comply. Individual employers implement the mitigation option(s) that they have chosen.*

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Section 108 (f) 16. Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
16.1	Counties assess ten dollar license plate fee to fund repair/replacement program for high-emitters	Self-explanatory.	Yes		CARB, BAR[13]
16.2	Offer incentives for retirement and replacement of vehicles for participants meeting specific requirements	Self-explanatory.	Yes		CARB, SCAQMD[14]
16.3	Demolish impounded vehicles that are high emitters	Self-explanatory.	No	Not economically feasible.	
16.4	Do whatever is necessary to allow cities to remove the engines of high emitting vehicles (pre-1980) that are abandoned and to be auctioned	Self-explanatory.	No	Not economically feasible.	
16.5	Accelerated retirement program	Identify high-emitting vehicle age groups and develop a program to remove them from use.	Yes		CARB, SCAQMD

[13] *Similar program administered with different funding source as part of smog check*

[14] *Voluntary car scrapping programs to generate credits*

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17. Other					
Measure #	**Measure Title**	**Description**	**Has It Been Implemented**	**Reasoned Justification for Not Implementing Measure**	**Implementing Agency or Agencies**
17.1	Truck-Only Lanes	Self-explanatory.	Yes		Caltrans, CTCs
17.2	Promote business closures on high ozone days	Non-employer-based strategy to require local business to close on bad air quality days, thereby reducing travel.	No	No authority to implement; not economically feasible	
17.3	Clean Fleet Vehicles for Government Employees	Provide alternative fuel vehicles for government employees.	Yes		CARB, SCAQMD, Counties, Cities