FINAL 2007 AQMP
APPENDIX IV-C

Regional Transportation Strategy and Control Measures

June 2007

Mission Statement

Leadership, vision and progress that promote economic growth, personal well being and livable communities for all Southern California.

The Association will accomplish this mission by:

- *Developing long-range regional plans and strategies that provide for efficient movement of people, goods and information; enhance economic growth and international trade; and improve the environment and quality of life.*
- *Providing quality information services and analysis for the Region.*
- *Using an inclusive decision-making process that resolves conflicts and encourages trust.*
- *Creating an educational and work environment that cultivates creativity, initiative and opportunity.*

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SUMMARY

This Appendix describes the Southern California Association of Government's (SCAG) transportation strategy and transportation control measures (TCMs) to be included as part of the 2007 Air Quality Management Plan (AQMP) and State Implementation Plan (SIP) for the South Coast Air Basin. This strategy was developed in consultation with Federal, State and local transportation and air quality planning agencies and other stakeholders. The four County Transportation Commissions 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 TCM strategy of this Appendix.

Consistent with past practices and in response to the inter-Agency consultation process, the *Regional Transportation Strategy and Transportation Control Measures* portion of the 2007 AQMP/SIP consists of the following four related elements.

- Transportation Strategy and Emissions - Total regional emissions from transportation projects in the South Coast Air Basin (Basin) are derived from the 2004 Regional Transportation Plan (RTP). The long-term planning requirements from on-road mobile sources are met by the RTP process, while the short-term implementation requirements are met by the Regional Transportation Improvement Program (RTIP) process.

- TCM Project Identification - The TCMs included in the 2007 AQMP are a subset of the RTP/RTIP. The TCMs are derived from TCM projects listed in the first two years of the 2006 RTIP, which include ongoing TCMs from previous RTIPs and are based on the broad categories (TCM1) adopted in the 1994 AQMP/SIP. Examples of TCM1 categories are HOV lanes, transit improvements, park and ride facilities and traffic signal improvements. TCM projects with funds programmed for right-of-way or construction in the first two years of the prevailing RTIP are considered committed TCMs. In the event of a conformity lapse, only federally approved TCMs and exempt projects, in the first two years (fiscally constrained portion) of the most recent RTIP, will be allowed to proceed.

  SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) provides for a formal substitution process that supersedes the process currently approved and implemented by SCAG. In the event that the criteria outlined in SAFETEA-LU are met, a formal SIP revision is not necessary for substitution of TCMs. SCAG will continue to update the TCM list to reflect new, completed and ongoing projects each time SCAG adopts a new RTIP and/or RTP.

- Timely Implementation – Once a TCM project is listed in an RTIP as a committed project, the implementation status must be reported on in subsequent RTIPs and RTPs until the project has been completed. The purpose of this reporting is to track the timely implementation of TCMs, and to demonstrate that TCMs have been or are being

implemented. Reporting is done through the timely implementation report which is included in each RTIP. This report assures implementation and compliance and is the primary tool used by SCAG and the federal agencies for TCM implementation tracking. As part of the RTIP process, the Transportation Conformity Working Group receives draft timely implementation reports as appropriate. SCAG maintains a list of completed TCMs on its website.

- Reasonably Available Control Measure (RACM) Analysis – The Federal Clean Air Act (CAA) requires that a RACM analysis be included as part of the overall TCM strategy in the SIP. This analysis ensures that all potential TCMs are evaluated for implementation and that justification is provided for those measures that are not implemented. In accordance with EPA procedures, this analysis will consider TCM measures that are suggested during public comments, relevant measures adopted in other non-attainment areas of the country, and measures identified by the U.S. Environmental Protection Agency (EPA).

LINKING REGIONAL TRANSPORTATION PLANNING TO AIR QUALITY PLANNING

The air quality 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 goals of cleaner air and the enhanced social and economic well being of communities. As the Federally-designated Metropolitan Planning Organization (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 addition, SCAG is a co-producer, with the South Coast Air Quality Management District (AQMD), of the AQMP for the South Coast Air Basin. SCAG has the responsibility for the demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies, as well as analyzing and providing emissions data related to its planning responsibilities (California Health and Safety Code § 40460).

The SCAG Region is the largest metropolitan planning area in the United States, encompassing 38,000 square miles. The Region is divided into 14 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 more than 18million people, nearly half of the population of the state of California. The Gross Regional Product (GRP) for the Region, over $700 billion in 2005, shows that Southern California is the 10th largest economy in the world, while the State, as a whole, constitutes the 5th largest economy in the world. The South Coast Air Basin (Basin) has the worst air quality of the four air basins contained in the SCAG region.

SCAG is responsible for the creation of the Region's quadrennial long-range (20 year planning horizon) RTP and its biennial short-term (six year planning horizon) RTIP. The 2004 RTP represents the culmination of more than two years of work involving dozens of public agencies, 184 cities, 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. A comprehensive list of Task Forces and Advisory Committees is included in the 2994 RTP, Appendix J[1].

The 2004 RTP was formally adopted by the SCAG Regional Council in April 2004, and approved by the federal agencies on June 7, 2004. The 2004 RTP, as updated by more current socioeconomic data and improved heavy-duty truck trip data, provides a basis for the transportation control strategy portion of the 2007 AQMP. It also provides the framework for aggregating sub-regional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from increased transportation activities. These measures are known as transportation control measures, and are the focus of this Appendix.

The RTIP is the vehicle used to implement the RTP. The TCMs in the 2007 AQMP are derived from the first two years of the 2006 RTIP. The RTIP also provides the schedule and framework for the timely implementation of the Region's TCM strategies.

Key Planning Factors: Challenges and Objectives

As the growth forecasts point out, the central challenge facing the Region is the prospect that the regional population is expected to increase by almost 5.8 million people (32%), from 2003 to 2035, employment by 2.5 million jobs (32%), and the number of households by 2.0 million (35%). Other demographic factors, such as the rapid aging of the region's population profile and proportional redistribution amongst the region's ethnic groups, may affect residential location decisions and affect commute and general transportation choices as well.

Accommodating this anticipated growth in a sustainable way—by taking account of ecological, economic and social factors, while enhancing quality-of-life indicators for present and future generations—represents the central challenge facing regional transportation planning in Southern California. Improvements in transportation mobility, both for people and for goods and services, and in progress toward meeting the NAAQS, must meet the goals of cost-effectiveness, environmental protection, and energy-efficiency.

It should be recognized that regional transportation and air quality plans, and ultimately their resultant SIPs, embody a commitment of resources by the region as a whole. However, as the designated MPO for the Southern California region, and thus also for the Basin, SCAG bases its responsibilities on the following four assumptions:

- There will be an appropriate commitment of fiscal resources from State and Federal sources.
- SCAG will continue to have responsibility over the official growth forecasts for the region.
- A monitoring system will be maintained to track implementation of the TCMs.

[1] http://scag.ca.gov/rtp2004/2004draft/techappendix/Appendix_J_Task_Forces_final.pdf

- There will be an appropriate commitment of resources supporting interagency consultation from local, State and Federal agencies involved in the process.

Additionally, the Regional Transportation Strategy proposed in the 2007 AQMP is predicated on the assumption that the following financial strategies adopted by SCAG's Regional Council (RC) will be implemented as expected:

- Protect/strengthen existing transportation revenues, including Proposition 42 revenues from the state sales tax on gasoline, truck weight fee revenues, and federal gas tax receipts;
- Continue local transportation sales taxes where necessary; allow 55 percent voter approval for local transportation sales taxes;
- Maximize motor vehicle fuel user fee revenue through pay-as-you-go and debt financing (assuming an adjustment to the gas tax rate to maintain historical purchasing power);
- Review methods for collecting revenues from alternative fuel vehicles;
- Support implementation of a development mitigation fee in San Bernardino County;
- Consider the feasibility of high-occupancy toll (HOT) lanes for new facilities; and
- Pursue user-fee-supported project financing for major regional investments where applicable.

Finally, it should be recognized that all the measures in this Appendix are taken from the 2004 RTP and the 2006 RTIP.

IMPLEMENTING A REGIONAL TRANSPORTATION STRATEGY

The Regional Transportation Strategy for the 2007 AQMP, as embodied in the 2004 RTP and further defined by the fiscally-constrained portion (first two years) of the 2006 RTIP, is part of a comprehensive vision to improve air quality, while at the same time enhancing mobility and assuring social and economic development. The transportation strategy and TCM projects proposed in this Appendix are an interconnected system, with the various components augmenting and reinforcing one another, rather than merely a mechanical aggregation of stand-alone actions.

Infrastructure improvements, transit and system management, and information services are being pursued within the context of a broad vision of the region's future. This transportation strategy outlines regional and sub-regional commitments to implement transportation improvements contained in the 2004 RTP and detailed in the first two years of the 2006 RTIP, and continues the blueprint contained in the 2003 SIP previously submitted to EPA.

The Regional Transportation Strategy is intended to maximize the emission reductions that can realistically be expected to be achieved from on-road mobile sources. However, it should be recognized at the outset that potential improvements in air quality deriving from TCM and RTP strategies applied to on-road mobile sources are minimal. This is due to the fact that motor

vehicle emissions have been substantially reduced through technology, individual TCMs affect only a small portion of regional travel, and that TCMs generally do not produce large scale changes in travel behavior. To attain the NAAQS, the Region will need to continue its focus on reductions from all emission source categories.

Historic Trends: Context and Conditions

As shown in Table 1, between 1980 and 2000, both population and employment have increased substantially in Southern California. During this same time period, the absolute number of home-to-work vehicle trips increased by 25 percent. However, the percentage increase in people driving to work alone is greater than the percentage increase in people using transit. The percentage increase in people sharing rides to work also lags appreciably. The absolute number of people that either work at home (including telecommuting), or ride a bicycle or walk to work, has dropped significantly for this same period as depicted in the "other" category in Table 1.

Clearly, and through the year 2000, the rate of increase in people riding transit and sharing rides to work has not kept pace with the rate of increase in home-to-work trips. There is a strong historic trend toward driving alone, and a primary goal of the RTP is to counter this trend.

This is one of the key challenges for regional transportation planning, and will continue to be a central concern for some time to come—ensuring that the proportion of transit and ride-share trips, as well as non-motorized and information technology-based strategies, increase their share of the total work-trips for the region, particularly over the next decade.

Table 1
Long-term Transportation System Trends: Southern California Region

	1980	2000	Change	% Change
Population	11,074,483	15,429,162	4,354,679	39%
Employment	5,402,323	7,089,958	1,687,635	31%
Total Home-to-Work Trips	4,898,642	6,102,839	1,204,197	25%
Drive Alone	3,493,490	4,648,117	1,154,627	33%
Carpool	844,424	960,356	115,932	14%
Transit	260,075	310,382	50,307	19%
Other	300,653	183,984	(116,669)	-39%

Growth Forecasts: Linking Socio-Economic Profiles to Land Use Patterns

As the designated MPO for the Southern California region, SCAG is responsible for generating the socio-economic profiles and growth forecasts on which land use, transportation, air quality management and implementation plans are based. The growth forecasts provide the socio-economic data used to estimate vehicle trips and vehicle miles traveled (VMT). Emission estimates can then be forecast based on these projected estimates.

The monitoring of changes in regional socio-economic profiles is a key factor in tracking changes in land use patterns as they affect transportation system usage and, thus, air quality impacts. The regional land use forecast consists of allocating population and employment growth totals among zones, based on existing factors that can shape development. To the extent that land use policies and programs impact the allocation of population and employment growth, they will be reflected in the regional land use forecast, and therefore in the mobile source emissions estimate.

Reductions in emissions due to changes in the socio-economic profile of the region are an important way of taking account of changes in land use patterns. For example, changes in jobs-housing balance induced by changes in urban form and transit-oriented development induce changes in VMT by more closely linking housing to jobs. Thus, socio-economic growth forecasts are a key component to guide the Basin toward attainment of the NAAQS. SCAG provides the mechanisms by which changes in socio-economic profiles, which affect land use patterns, can be monitored on a systematic and on-going basis.

Southern California Compass Blueprint: Planning for Integrated Land Use and Transportation

Given the magnitude of growth projected over the 30-year RTP forecast period, and its potential impacts on traffic congestion, air quality, open space protection, etc., SCAG initiated a comprehensive growth visioning process called Southern California Compass as part of the 2004 RTP development process. Compass seeks to accommodate growth while maintaining mobility, livability, prosperity and sustainability goals for all residents in the SCAG region. Specifically, Compass aims to provide a policy framework for growth forecasts; consider balanced and efficient growth and transportation patterns; promote affordable housing choices; and provide direction on producing alternative urban form scenarios for the RTP.

At its core, Compass utilizes a technique referred to as scenario planning. Scenario planning, endorsed by the Federal Highway Administration (FHWA) and the U.S. EPA, explores multiple options for a region's future and how the choices we make today will affect future outcomes. SCAG, via Compass, developed literally dozens of different scenarios and modeled and analyzed each. Through an iterative process these scenarios were refined, and eventually one scenario was selected as the growth alternative for the 2004 RTP.

The following policy assumptions aiming to better link transportation and land use established the framework for the 2004 RTP:

- *Focusing growth in centers and major transportation corridors*
  By accommodating growth in existing or emerging centers and corridors, the region can greatly improve transportation performance. The centers themselves will be easily accessible from major freeways and also will include their own internal strong street network. Balancing the location of jobs and housing is an important strategy in meeting regional goals of relieving congestion, reducing commute times and vehicle trips, encouraging alternate modes of transportation, and improving air quality. The Growth Vision Alternative achieves

these goals via an in-fill strategy by locating job and housing centers in targeted livable communities suitable for accommodating additional growth.

- *Creating significant areas of mixed-use development*
  Mixed-use development uses the same strategy as centers-based development and ensures a strong balance of jobs and housing located near each another. Mixed-use development sometimes takes the form of well-designed retail shops and services with housing placed above or adjacent. It also refers to a larger neighborhood area with an appealing mixture of housing, shops, small offices and services, all within walking distance. The use of in-fill in aging and underutilized sites provides a means of accommodating growth, revitalizing neighborhoods, districts or communities, and makes efficient use of the existing infrastructure. Many existing corridors lack the residential and commercial density to adequately support non-auto transit uses. By intensifying these corridors with people-scaled and mixed-use developments, the existing transit system can more fully realize its potential for accommodating additional trips and taking strain off systems that are already at or over-capacity.

- *Targeting growth around transit stations*
  The principle of transit-oriented development (TOD) is particularly relevant to employment. For commuting by transit to be effective, major employment areas should not be dispersed but instead should be easily accessible to transit investments. In the Growth Vision distribution, employment density near major transit corridors and stations is quite high - providing an innovative and efficient partnership between land-use and transportation policies. By intensifying these stations with people-scaled and mixed-use developments, the existing transit system can more fully realize its potential for accommodating additional trips and taking strain off systems that are already at or over-capacity.

- *Providing housing opportunities to match changing demographics*
  Changing demographics will have an impact on the Region's economic future. The large baby-boomer cohort will begin retiring after 2010. Other changes on the horizon include increased immigrant (younger) population; increased household size, and lower per capita income. These changes necessitate variation in housing products as well as amenities to serve the changing population.

- *Ensuring adequate access to open space*
  Demographic trends, the need for adequate job opportunities and shelter, and the Region's historical development pattern set the stage for competing quality-of-life demands. Development patterns in the Growth Vision Alternative emphasize focusing growth in appropriate centers and corridors that make most efficient use of developed land and minimize encroachment on open public space. This should improve access to existing large-scale and neighborhood-scale open space.

- *Changing land use to correspond to the implementation of a decentralized regional aviation strategy and its consequent sort- and long-term job creation*

The decentralized airport strategy creates a significant number of high-paying jobs in the short- and long-term. The Growth Vision alternative responds to this by creating the opportunity for well-balanced communities to support the additional workforce.

- *Changing land use to correspond to the implementation of regionally significant major transportation projects and their consequent short- and long-term job creation*
  New regionally significant infrastructure, such as highways and high-speed rail, is planned to serve future housing and job centers in the high desert areas of Los Angeles and San Bernardino counties and eastern Riverside County. Planned shifts of goods distribution functions to these areas also create long-term employment benefits.

- *Incorporating the local input and feedback on future growth*
  Ninety percent of the 193 jurisdictions participated during extensive public outreach over a two- year period for the development of the 2004 RTP Growth Forecast. This technical input and local expertise were critical in developing the 2004 RTP. Adjustments occur only after a ramp up period (post-2010) intended to establish consensus on an implementation strategy.

Regional Benefits of Compass

As part of the 2004 RTP planning process, the RTP was analyzed relative to baseline conditions. The analysis revealed that the strategies of the 2004 RTP contribute benefits to mobility, transit boarding, air quality and energy consumption over the forecast period. As part of the 2004 RTP planning process, the RTP was analyzed relative to baseline conditions. The analysis revealed that the strategies of the 2004 RTP contribute benefits to mobility, transit boarding, air quality and energy consumption over the forecast period. The 2007 AQMP, while based on the 2004 RTP, incorporates changes to emission factors based on ARB's EMFAC2007 and to the socioeconomic data based on actual changes since the 2004 RTP was prepared. While the Compass 2% Strategy assumptions remain the same, these other changes result in revised emission projections and benefits compared to what was shown for the 2004 RTP. For example, Growth Visioning in the 2007 AQMP is estimated to contribute a reduction of approximately 0.5 ton per day of ROG in the year 2020 (approximately 30% of total reductions) versus a reduction of approximately 2 tons per day in 2020 (approximately 70% of total reductions) when analyzed for the 2004 RTP. It should be noted that the emission benefits attributed to Compass reflect only grosser changes in land use, and do not account for the micro land use changes that are assumed in Compass and are expected to provide additional transportation and emission benefits. SCAG is working to develop additional analytical tools to better calculate the benefits attributable to the Compass program.

Implementing the Compass Vision

While Compass has succeeded in garnering citizens, planners and officials to create a shared regional vision, its ultimate success will be measured over time. Southern California can achieve maximum mobility, livability, prosperity and sustainability only through a series of agreed upon

and feasible implementation tools. The Compass implementation plan focuses on reaching out to local decision-makers and the public at large to build support and local actions for the Vision through demonstrations of how minor changes in land-use and transportation decision-making can reap heretofore unexpected economic, mobility, and environmental benefits locally, sub-regionally and regionally. These Compass strategic opportunity areas make up about 2% of the region, thus, leading to the name "Compass 2% Strategy" for the implementation plan.

The Compass 2% Strategy for focusing growth in smart growth opportunity areas will be most successful when it compliments local visioning, inform local policy making, and integrates and aligns local planning with regional transportation investment plans. Collaboration with transportation commissions, subregional councils of government, municipal governments and private developers will be a featured element in evolving the vision. Political support for the vision would be developed by taking the plan to cities and counties. The State, regions and local governments can collaborate on future planning to address and alleviate the need for housing.

To ensure collaboration and sustained public and stakeholder involvement, SCAG has convened the Compass Partnership comprised of business leaders, activists, academics, public officials and others to meet quarterly and serve as an extension of the Compass program into local communities.

The SCAG Regional Council continues to support the Compass 2% Strategy as a high priority program. As such, the following tasks critical to implementation have been underway since the adoption of the 2004 RTP:

1. Initiating Compass demonstration projects in critical growth opportunity areas with member cities and Council of Governments and providing technical assistance for projects that exemplify one or more of the key principles of the Compass Vision.
2. Targeting local governments to align their plans with the Compass Vision and providing assistance and training support to communities developing or updating general, specific and redevelopment plans and pilot projects.
3. Providing local governments, subregions and transportation commissions with development screening, scenario planning and real estate analysis tools, e.g. LA LOTS (Land Use Opportunity Tracking System) and other inter-regional partnership program tools.
4. Conducting an extensive public education, training and outreach program that promotes incentive based initiatives supporting Compass goals, e.g., Pilot corridor programs and local success stories.
5. Establishing benchmarking, program assessment, evaluation and monitoring guidelines in collaboration with subregional councils of government, transportation commissions, local government partners, and other applicable stakeholders.

Goods Movement: Development of a Regional Strategy

The discussion of land use and its relation to mobility and air quality must consider the significant impact that the region's goods movement system plays. While international trade and

goods movement activities are key contributors to the State's and Southern California economic vitality, air pollution from these activities is a major public health concern at both regional and community levels. To address the economic growth, mobility, and environmental issues associated with goods movement, SCAG's Goods Movement Program seeks to optimize the region's transportation system through increases in economic efficiency, congestion mitigation, safety and air quality improvements, and enhancements to system security (http://scag.ca.gov/goodsmove/).

2004 Regional Transportation Plan's Goods Movement Strategy

The adopted 2004 RTP presents the region's most ambitious program of strategies and projects for improving the region's goods movement system and reducing its current impacts on congestion and the environment. In fact, the 2004 RTIP already committed $2 billion in goods movement-related projects that are slated to start within the next six years. Beyond this baseline and out to year 2030, the 2004 RTP proposed a series of system and physical enhancements aimed at improving the flow of goods through the region.

For instance, recognizing the need for additional highway capacity to handle increased truck as well as passenger traffic, the 2004 RTP proposes a $16.5 billion regional system of dedicated truck lanes along freeway corridors extending from the San Pedro Bay Ports, through the East-West Corridor (to be defined as part of Multi-County Goods Movement Action Plan) and out to distribution points northeast and southeast of the urbanized areas. Such a regional system would be funded through user-fees based on a per-mile toll. Implementation dates range between years 2020 and 2030. Therefore, the dedicated facilities offer a viable and potentially self-financing solution for mitigating congestion and reducing mobile source emissions arising from freeway operations in Southern California. In addition to the dedicated facilities, the 2004 RTP includes additional truck climbing lanes on four routes in Orange, Riverside, and San Bernardino Counties, with implementation ranging from 2010 to 2030.

The 2004 RTP also includes provisions for a regional rail capacity improvement program totaling $3.4 billion, which provides for both additional track capacity and mitigations in the form of some 130 highway-rail grade separation projects east of downtown Los Angeles. This strategy was identified as enabling the region to meet mainline rail capacity needs east of Los Angeles where triple and sometimes quadruple track improvements are needed. Bottlenecks such as the rail-to-rail Colton Crossing could also be addressed.

The RTP goods movement strategy included studying the viability of developing inland ports away from the water ports to serve as cargo facilitation centers. These facilities would function as inland sorting and depository centers for ocean and domestic containers, possibly transported via dedicated rail or truck facilities.

Subsequent to the adoption of the 2004 RTP, SCAG and its transportation partners developed a more focused regional consensus goods movement infrastructure project list, referred to as Southern California Regional Strategy for Goods Movement: A Plan for Action (amended March 2005), which was provided to the California Department of Business, Transportation & Housing as input into the State Goods Movement Action Plan. The list calls for approximately

$6 billion in freight rail investments and $20 billion in highway investments to enable the region to handle the dramatic growth in goods movement. The rail investments consist of additional mainline capacity and new intermodal capacity to handle this growing segment of international trade. About a third of the rail-related investments are for grade crossing separations, which reduce traffic congestion, improve safety, and reduce pollution. The highway investments include a system of dedicated, toll-financed truck lanes, truck climbing lanes, rebuilt bridges and port access roads, and other freight related projects. In addition, $10 billion was earmarked for environmental mitigation that would be coupled with infrastructure proposals.

Air Quality Objectives

While the planning for the 2004 RTP considered the need for increased capacity to handle the projected flow of goods through the region and support the goods movement industry as an economic driver, it also considered the beneficial air quality impacts associated with an improved goods movement system. The public discourse related to goods movement subsequently evolved to focus more prominently on the environmental impacts from this source. Air pollution associated with goods movement is now more widely recognized as a major public health concern. At a regional level, the emissions associated with goods movement activities are significant contributors to exceedances of the health-based ozone and particulate matter NAAQS. At a local level, the emissions of diesel particulate matter from goods movement sources are a major component of increased adverse health risks in communities near the ports and associated transportation corridors. Health risks associated with exposure to the pollutants from goods movement activities include premature death, cancer risk, respiratory illnesses, and increased risk of heart disease.

The California Air Resources Board (CARB) estimates statewide premature deaths from goods movement to be approximately 2,400 annually, mostly from particulate pollution. Even after implementation of proposed CARB control measures, the estimate if premature deaths remaining is still very significant (approximately 1,600). CARB also estimated the cancer risk from activities specifically at the Ports of Los Angeles and Long Beach and found that the areas with the greatest impact outside port boundaries have an estimated cancer risk of over 500 in a million. The study found that the impact areas extend several miles from the ports.[2]

Previous to the CARB studies, an urban toxics monitoring and evaluation study was conducted for the South Coast Air Basin as part of the Environmental Justice Initiatives adopted by the AQMD Governing Board in October 1997. The Multiple Air Toxics Exposure Study (MATES-II)[3] found that mobile source related compounds tend to be generally high throughout the Basin; however, spatial variations show higher concentrations occurring along freeway corridors and junctions. In addition, higher levels of mobile source related compounds are estimated near major mobile source activities (e.g., ports).

The CARB and SCAQMD studies reveal that living close to freight transportation corridors increases health risk beyond regional levels. Consequently, the adverse health impacts

[2] CARB, *Proposed Emission Reduction Plan for Ports and Goods Movement in California*, March 2006.
[3] The SCAQMD is in the process of conducting a follow-up study (MATES-III).

associated with goods movement activities has significant implications for transportation planning in the region.

There is considerable effort underway by state, regional, and local stakeholders to address the numerous issues associated with goods movement. However, these efforts are not fully coordinated nor do they necessarily have the same objectives. While addressing the economic growth and mobility issues associated with goods movement, transportation planning agencies must include regional and community air quality improvements as an intrinsic component of a regional goods movement system. Investigation into a regional goods movement transportation system based on innovative freight movement technologies which could potentially reduce or eliminate diesel PM emissions should be the common goal of transportation planners and air quality agencies and other health officials. To this end, SCAG's comprehensive Goods Movement Program includes development, review, and consideration of state-of-the art and paradigm-shifting system-wide technologies that provide for economic growth, improved regional mobility, and the mitigation of both adverse localized air quality impacts (i.e., air toxic emissions) and regional air quality impacts (i.e., criteria pollutant emissions) associated with the goods movement activities. An overview of potential innovative goods movement technologies are described later in this section.

SCAG's Goods Movement Program and Studies

To facilitate the discourse on a goods movement strategy for Southern California, SCAG's Goods Movement Task Force meets on a monthly basis as a forum for stakeholders to advance a regional strategy. Agenda, meeting minutes, and presentations to the Goods Movement Task Force can be accessed at SCAG's website (http://scag.ca.gov/goodsmove/#taskforce). Over the past few years, a number of studies, reports, and strategies have been considered through this process as shown in the following list.

- Goods Movement in Southern California:
  The Challenge, The Opportunity, and The Solution, September 2005
- Southern California Regional Strategy for Goods Movement:
  A Plan for Action February 2005, Amended March 2005
  - Southern California Consensus Priority Goods Movement Projects
  - Map 1: Existing Goods Movement System in the SCAG region
  - Map 2: Needed Additions to the Goods Movement System

- Inland Port Feasibility Study: Draft Report on Inland Port Case Studies
  June 2006
- Final Report: Port and Modal Elasticity Study
  November 2005
- Inland Empire Railroad Main Line Study
  June 2005
- Subregional Freight Movement Truck Access Study
  July 2004
- Logistics and Distribution: An Answer to Regional Upward Social Mobility June 2004
- Regional Rail Capacity Improvement Program
  January 2004
- User-Supported Regional Truckways in Southern California
  January 2004

- CVAG Southeast Bypass Routing Study Report
  May 2003
- Goods Movement Truck and Rail Study
  January 2003
  - Technical Appendix: Subregional Freight Movement Truck Access Study
- Goods Movement Truck Count Study
  September 2002
- Los Angeles-Inland Empire Railroad Mainline Advanced Planning Study
  October 2002
- Empty Ocean Container Logistics Study
  May 2002
- Goods Movement Program White Paper: A Survey of Regional Initiatives and a Discussion of Program Objectives
  January 2002

In addition to the studies listed above, SCAG is either the lead or in partnership with other agencies/organizations for on-going efforts to address the various issues associated with goods movement in California and in Southern California in particular. The goal of these efforts is to develop a system-wide goods movement plan that accommodates the facility needs and economic opportunities of the region while ensuring that the adverse environmental impacts of the goods movement system are appropriately mitigated.

Goods Movement Control Measure

As part of the Transportation Strategy for the 2007 AQMP, SCAG is proposing a Goods Movement Control Measure which consists of two main components: Zero-Emissions Rail System and Truck-Only Lanes. See Attachment D.

High Speed Transport System

SCAG has recently advanced a vision of additional high performance, environmentally sensitive regional movement systems based on the introduction of a high speed, regional transport system (HSRT). Envisioned to move both cargo and people throughout the region, the HSRT would serve to:

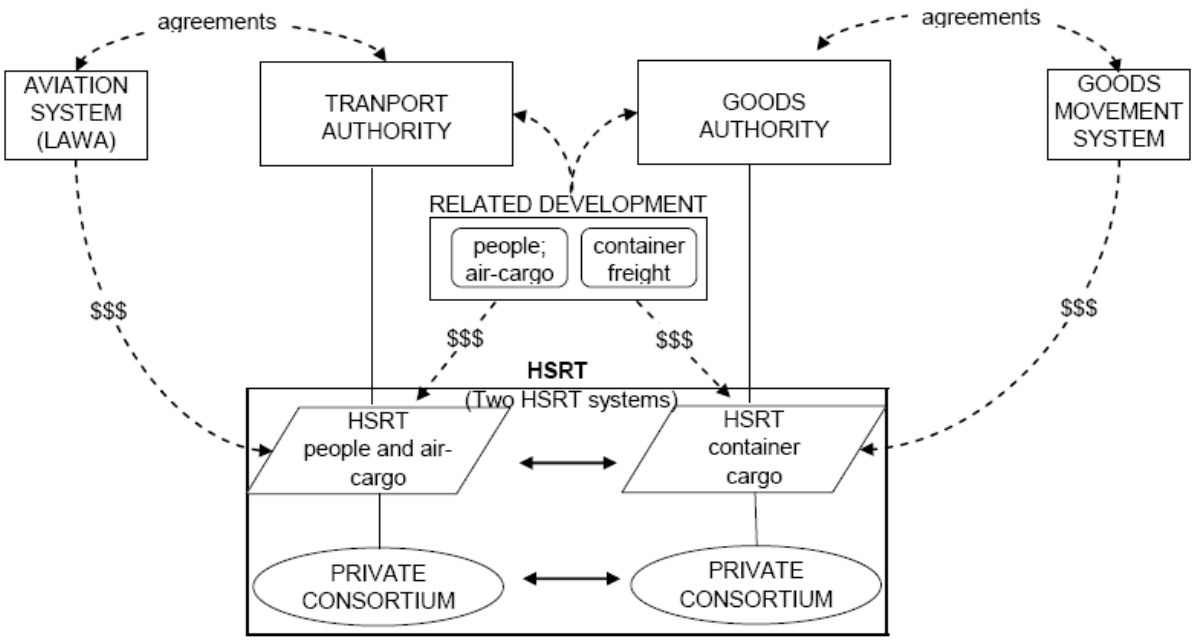
- Link the San Pedro Bay ports with an inland port facility. The proposed regional strategy to increase capacity via inland ports by connecting them with a high-speed and high capacity line to the San Pedro Bay ports complex will facilitate efficient and environmentally sensitive goods handling in areas that have sufficient space outside of the urban areas. Create a direct, high-speed link between the urban centers and the airports. This would enable a higher level of service for airport access and connecting passengers, improved operation of the aviation system for passengers and airborne cargo, and optimize investment in aviation system infrastructure. This view envisions the continued use of Los Angeles International Airport (LAX) as a hub while allocating future traffic, both passenger and cargo, to other regional airports based on a high-speed connection via the HSRT.

- Link the urban centers, serving the needs of commuters while reducing the number of private vehicles on the road. This would reduce traffic congestion, enhance mobility options, as well as reduce air and noise pollution from automobiles. By linking the dispersed activity centers around the region with a high-speed connection, it allows for improved facilitation of a variety of activities between urban centers and improves abilities for more efficient land use patterns.

Relative to goods movement, an HSRT system can provide greater throughput and reliability with near zero emissions (see section on Innovative Goods Movement Technology below). Essentially, goods would be shuttled from the Ports to an inland port at San Bernardino and/or Palmdale via an HSRT container movement system. An HSRT system capitalizes on the inherent savings of multiple uses on a single infrastructure by operating on shared alignments with the HSRT people movement system. The technology permits operation of HSRT freight vehicles on a shared guide-way with passenger vehicles even during peak hour service. Freight vehicle trips can be interspersed with passenger trips while still meeting required passenger vehicle headways. Additionally, full utilization of the freight line can be achieved during the passenger system's off-peak hours.

Implementation of the HSRT is being proposed on the basis of a potentially self-financing business plan approach based on aviation, commuter, and freight operations and further bolstered by HSRT related development. The deployment of a HSRT system would create value in associated components which could in turn contribute to the HSRT's total financial performance. A business and institutional structure for the movement of people, movement of goods, and associated development patterns has been developed by SCAG to serve as the basis for implementation of the movement systems. The results reached by SCAG's business planning effort indicate that HSRT-based systems for aviation, goods, and people movement can fulfill the objective of financial independence and feasibility.

A schematic of the business plan is shown below.



A preliminary HSRT network is shown on the map on the following page.


KERN
LOS ANGELES
SAN BERNARDINO
RIVERSIDE
ORANGE
UP Line to Tehachapi and Central Valley
Palmdale Regional Airport
Southern California Logistics Airport (Victorville)
UP Santa Clarita Line
UP Colton Cutoff
BNSF Transcon
UP Coast Line
Bob Hope Airport (Burbank)
Glendale
UP Alhambra Line
San Bernardino
San Bernardino International Airport
West LA Station
LA Union Station
El Monte
West Covina Station
Ontario Airport Station
Ontario International Airport
ICTF Colton Yard
East Los Angeles
Colton Crossing
Inglewood
UP LA Sub
Riverside
Moreno Valley
Los Angeles International Airport
Downey
Norwalk
Alameda Corridor
March Air Reserve Base
UP El Paso Line
Fullerton
Anaheim
Torrance
Long Beach Municipal Airport
Palm Springs International Airport
Orange
Garden Grove
Santa Ana
ICTF Ports LA/LB
Huntington
John Wayne Airport
Costa Mesa
El Toro
Legend
IOS Passenger Route
Extension to Ports
Existing Freight Railroads
Extension to SBD
Extension to LAX
Extension to Palmdale
Extension to Palm Springs

Truck-Only Lanes

SCAG is formulating a business plan for a regional truckway system comprising 142 center-line miles of dedicated truck lanes extending from the San Pedro Bay ports eastward toward Barstow. The dedicated truckways offer a viable and partially self-financing solution for mitigating congestion and reducing mobile source emissions. The system would have a graduated toll rate based on a number of factors including the relative emissions associated with each vehicle. The truck-only lane would potentially allow each truck to carry multiple containers, reducing emissions and further improving the efficiency and financial viability of the system. The requirement that all trucks use alternative clean technology or otherwise meet the 2010 on-road heavy-duty exhaust emissions standards is also being considered. The EIR/EIS for the I-710 Corridor project mentioned above will include evaluation of specific alternatives for the first segment of a truckway system from the ports to downtown Los Angeles.

Taken together, the various components of an overall goods movement strategy are the basis for a goods movement transportation control measure. The enforceability of this measure is predicated on binding agreements, financing, and pricing mechanisms through existing Joint Powers Authorities or other applicable institutions or agencies.

A supplemental/alternative approach to achieving emission reductions could take the form of an emissions reduction market based on binding agreements among the parties and performance commitments included in the SIP.[4]

Because of the complexity of the issues and the numerous on-going and planned efforts of the goods movement stakeholders, this control measure will be further refined as part of the 2007/8 RTP. The goods movement strategy developed for the RTP could then become the basis for a SIP amendment which incorporates applicable emission reduction strategies.

Table 2 below summarizes the current efforts of SCAG and other stakeholders related to goods movement. Two of the planning studies and an overview of innovative goods movement technologies are also described in greater detail following the table.

[4] A proposal along these lines was included as Appendix G: Maritime Good s Movement Coalition Proposal, *Proposed Emission Reduction Plan for Ports and Goods Movement in California*, Approved by ARB on April 20, 2006.

Table 2
Goods Movement Programs and Studies

SCAG Lead Studies		
Environmental Mitigation for Goods Movement	Develop a detailed strategy for investing a potential $10 billion in funding for mitigation of the environmental impacts of goods movement in the SCAG region. The study will identify potential control measures for goods movement sources, including ocean-going vessels, harbor craft, cargo handling equipment at marine terminals and intermodal yards, locomotives, and trucks. The study will rank the measures according to effectiveness (tons of pollution reduced) and cost-effectiveness (dollars per ton) and estimate their cumulative impact on the region's air quality.	12/07
Inland Port Feasibility Study	To determine the potential benefits an Inland Port could provide to both the public and private sectors, such as reduced highway congestion and community impacts, improved air quality, and increased supply chain efficiency and reliability.	6/07
Port and Modal Elasticity Study Phase II	Building on the previously completed SCAG Port and Modal Elasticity Study and railroad mainline studies, conduct additional outreach and research to further consolidate the case for private sector participation in financing infrastructure for goods movement.	6/07
Goods Movement Conceptual System Design Phase I & II *	Develop a conceptual design for the region's goods movement system. This design will be used to communicate with stakeholders about the impacts and benefits of investments in the regional system. It will include more than the existing RTP and project lists, which will help to build consensus for implementation.	12/09
Feasibility of Innovative Freight Technologies *	The objective of this study is to research potential alternative methods of transporting goods in the region, (e.g., underground tunnels, pilot-less shuttles, mono-rails, conveyer belt systems) and determine which if any of these warrant further study and consideration. The study will determine the feasibility of implementing such systems, and advantages and disadvantages compared to current forms of goods movement such as costs to shippers, capital, operating, and maintenance costs, time savings, and community, congestion and air quality impacts.	12/09
Study of Freight Movement by High Speed Rail *	Conduct a study of the potential for high-speed rail (MagLev or other technology) to serve as an economically viable means of transporting freight across the SCAG region.	12/09
Missing Link Trucks	The purpose of this project is to determine the truck traffic impact on the Arroyo Verdugo Subregion should the I-710 gap closure project be completed.	12/07
2% Strategy: Logistics Infrastructure & Growth Consensus	To identify a goods movement pilot project that would demonstrate and advance the goals and objectives of the Compass 2% Strategy.	Completed

* These three studies are being combined.

Table 2 (continued)
Goods Movement Programs and Studies

Partnerships with Other Agencies		
State Goods Movement Action Plan	A partnership between the State BT&H and Cal/EPA to bring stakeholders together address the movement of goods and reducing associated environmental impacts in California. Phase I focuses on the "why" and "what" of California goods movement needs. Phase II work addresses infrastructure, environmental impact mitigation, innovative and alternative financing, homeland security and public safety, and community impact mitigation, and workforce development.	Completed
Multi-County Goods Movement Action Plan	The objective of the Multi-County Goods Movement Action Plan is to work with the County Transportation Commissions and Caltrans to develop a regional consensus and framework for improving the goods movement system, which includes the ports, trucking, freight rail, inter-modal facilities, and air cargo, etc., as well as mitigating negative community and environmental impacts.	6/07
Southern California National Freight Gateway Strategy MOU	Establish a formal process through which state and federal agencies would share responsibility and work collaboratively with Southern California transportation agencies to address the region's infrastructure needs, environmental effects, and community impacts of increasing goods movement through the "Southern California National Freight Gateway," which extends from the San Pedro Bay Ports to the cities of Barstow and Indio, California	4/07
Sub-Regional COG Studies		
I-710 EIR/EIS	To provide regional technical planning support to the multi-jurisdictional planning team and to satisfy the detailed questions/issues stemming from the completion of the LPS in the areas of corridor-wide and micro-level traffic forecasting, air quality impacts/mitigations (near term strategies and action plan, and conformity determination) and public involvement/outreach as appropriate.	TBD
Gateway Cities COG - Sub-Regional and Inter-Regional Goods Movement Study	Integration of Goods Movement Freight Corridors/Truck Lane Facilities into a system-wide freight corridor/truck lane system.	6/07
South Bay Cities Council of Governments - South Bay Harbor Freeway Goods Movement	Working with the POLB/POLA/LAWA and other groups such as the Multi-County Goods Movement Advisory Committee, the SBCCOG perform traffic pattern analyses that review the impacts of growth at the ports and the planned improvements on the Harbor Freeway and adjacent arterials to address that growth.	9/07
Gateway Cities COG - Goods Movement Strategies	Explore potential strategies for goods movement projects as well as linking transportation to land use within corridors	Completed
Coachella Valley Association of Governments - Southeast Bypass Routing Study	To determine the feasibility of constructing a bypass route extending from the I-10 at Blyth northwest to the I-40 at Ludlow.	Completed

Environmental Mitigation Plan for Goods Movement

This SCAG study will determine how $10 billion could best be spent to bring about improved air quality in the region by reducing emissions from the goods movement sector. Specifically, the study will identify potential control measures for goods movement sources, including ocean-going vessels, harbor craft, cargo handling equipment at marine terminals and intermodal yards, locomotives, and trucks. Among the potential emission reduction strategies, the study will evaluate the relative costs and effects of electrification of rail and highway (truck) facilities. The consultant will rank these measures according to effectiveness (tons of pollution reduced) and cost-effectiveness (dollars per ton) and estimate their cumulative impact on the region's air quality. The analysis will determine whether $10 billion will be enough to achieve a "fair share" of emissions reductions from the goods movement sector relative to the PM2.5 and 8-hour ozone attainment demonstrations or whether more funds will be needed and what additional measures must be taken.

The $10 billion figure is derived from SCAG staff and consultant work on goods movement. This work has established that the private sector finds substantial value in the use of goods movement infrastructure in our region, both existing and planned. As long as this value (productivity gain) is realized, it is unlikely that the region would lose a great deal of trade volume to other areas even if private user fees are adopted to finance new infrastructure. With the revenue that could be raised in this manner, as much as $36 billion in total could be financed for freight rail and truck facilities, as well as mitigation of the substantial environmental impacts of goods movement. Since the estimated regional total need for goods movement infrastructure is approximately $26.2 billion, about $10 billion could be dedicated to environmental improvements.

Final results of this study are expected in December 2007.

Multi-County Goods Movement Action Plan

Through this effort, local transportation planners have chosen to collectively address how freight can be moved to and through Los Angeles and its neighboring counties of Orange, Riverside, San Bernardino, Ventura, Imperial and San Diego, without disproportionately impacting local communities and the environment. Project partners are:

- Los Angeles County Metropolitan Transportation Authority (Metro)
- Orange County Transportation Authority (OCTA),
- Riverside County Transportation Commission (RCTC)
- San Bernardino Associated Governments (SANBAG)
- Ventura County Transportation Commission (VCTC)
- San Diego Association of Governments (SANDAG)
- Caltrans: Districts 7, 8, 11 and 12
- Southern California Association of Governments (SCAG)

The study began in July 2005 with Los Angeles County Metropolitan Transportation Authority ("Metro"), as the administrative lead. The mission of the action plan is to partner with the private sector in the development of a strategy and implementation plan for an improved regional goods movement system that:

- Ensures the efficiency and reliability of freight movement
- Maximizes both the economic opportunities associated with goods movement, as well as opportunities to reduce the associated environmental and community impacts
- Complements local and regional economic goals
- Includes innovative funding strategies
- Encourages coordination and cooperation among the implementing agencies, both public and private

This effort is intended to be a consensus strategy and implementation plan for the Southern California goods movement system. Specific objectives include: document existing freight movement systems and constraints; identify projected goods movement growth and trends, and possible private sector responses; identify strategies to lessen community and environmental impacts; identify optimal short-term and long-term infrastructure and operational strategies/projects; identify private- and public-sector roles in implementation, and funding sources; and identify partnership opportunities and solutions for implementation and needed public-private institutional arrangements

As mentioned above, the scope of this effort includes an evaluation of the environmental impacts of goods movement, including air quality impacts, in the region. The effort will result in an Action Plan that contains a full range of strategies and options (short, mid and long-term) that can be implemented for the region as a whole, as well as the individual counties, including strategies to reduce air quality impacts from this sector.

It is expected that this joint effort will be completed in 2nd quarter 2007, and its findings and recommendations will be incorporated into the 2007/8 RTP.

Innovative Goods Movement Technologies

For centuries, freight has been moved by transport technologies such as locomotives on rail and trucks on road, both of which use diesel fuel. Except for the advent of containerization three decades ago and intermodalism (i.e., the use of multiple modes of transportation [locomotive rail, ocean carrier, and heavy-duty trucks along the supply-chain]), today's freight technologies and their pathways have remained relatively unchanged. On-road trucks, in particular, continue to be an integral and important component of Southern California's goods movement system. Almost all of the short-haul and a significant share of medium and long-haul movement of goods occur by truck. In addition, a significant share of freight is moved through the region and out of state by diesel locomotives on rail.

As discussed above, there are health and environmental issues as well as issues of congestion and system inefficiency that create a compelling public interest to look at alternative freight transport technologies. As such, various forms of alternative freight transport systems have

been proposed that are intended to supplement or replace current truck and rail transportation. The proposed technology systems could potentially generate system benefits relative to conventional truck and rail transport such as increased port throughput capacity, reduced highway and rail congestion, reduced emissions and energy use, and lower operating costs through automation and increased efficiency.

This section provides an overview of three basic types of conceptual designs: 1) Linear Induction Motor Systems; 2) Automated Truck Platoons; and 3) Automated Rail Vehicles. There may be other emerging technologies that are not listed here, but are likely to be variations of those listed below. It should again be noted that SCAG will be conducting a feasibility study of these and other alternative freight technologies for possible application in the region. The study will identify and evaluate potential alternative methods, alignments and technologies for transporting goods within the SCAG region.

Linear Induction Motor Systems

Linear induction motor (LIM) systems typically use a girder-like monorail to support or suspend a container-carrying vehicle. Linear induction motors use electromagnetic force to produce linear mechanical force, rather than torque as in typical rotary electric motors. Vehicles that use linear induction motors can have contact with the guideway through the wheels (they may also levitate on the cushion of air between magnets mounted on the guideway and others on the vehicle, often referred to as "magnetic levitation" or "maglev" technology). LIM allows for a very simple electric propulsion system with few moving parts. The four types of LIM systems described in this section are: freight shuttles, Auto-Go, GRail, and Maglev.

Freight Shuttle

One LIM concept, called the *"Freight Shuttle"*[5], consists of an automated vehicle, a specially designed guideway, a linear induction propulsion system, and a control system (Exhibit 1). This system is envisioned as fully automated and unmanned, shifting the complexity to the central control system. The Freight Shuttle is envisioned as running in a loop between a marine terminal and an inland terminal.

[5] *The Freight Shuttle: The Crisis in Freight Transportation and The Opportunity for a Green Alternative*, Stephen S. Roop, Ph.D., Texas Transportation Institute, Texas A&M University, 2006

Exhibit 1: Freight Shuttle LIM System

Note that Exhibit 1 shows the Freight Shuttle guideway at ground level in the marine or inland terminal. Fixed girder-like guideways have the disadvantage of presenting a barrier to terminal circulation.

The Freight Shuttle concept requires an exclusive, grade-separated right-of-way as it is not compatible with other systems or with driver-guided vehicles. Exhibit 2 shows the Freight Shuttle in a freeway median, a common concept for fixed-guideway systems. Since the floor of the Freight Shuttle vehicle would likely be approximately the same height as a container chassis, it should fit under freeway and surface overpasses.

Exhibit 2: Freight Shuttle in Freeway Median

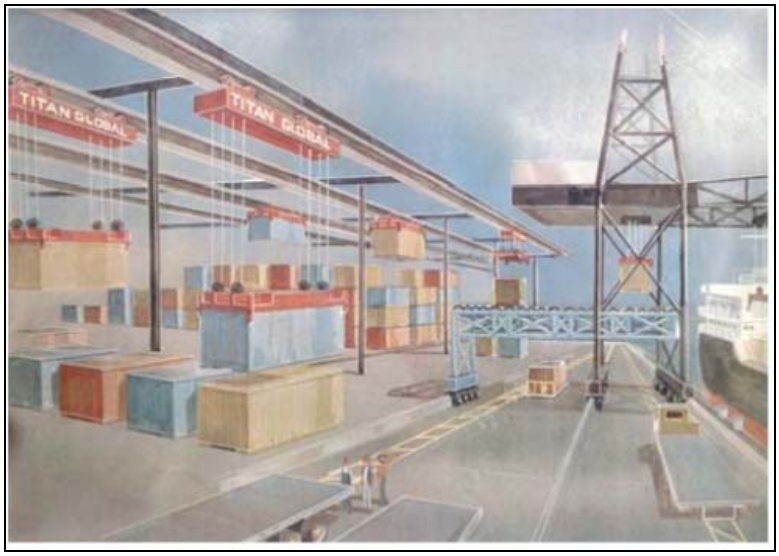
Auto-GO

Titan Global Technologies Ltd., a New Jersey based company, developed a suspended freight monorail concept that utilizes linear induction motors called Auto-GO**.** Auto-GO is an overhead cargo container handling system with fully automated single-container shuttles using linear induction motors (Exhibit 3). The Auto-GO system envisions container vehicles suspended from a girder system, each vehicle equipped with a spreader bar and cables to lift and drop containers at the terminals. This system would also be fully automated.

Exhibit 3: Auto-GO System over Highway

The transportation process would start inside the terminal where a gantry crane drops off the container (Exhibit 4). A cargo carrying system that is integrated with the carrying vehicle picks up the container and raises it by means of a specially designed bogie-spreader bar combination. The container is then secured under the container shuttle, and transported at 50 to 75 mph to its final destination.

Exhibit 4: Auto-GO System in Terminal

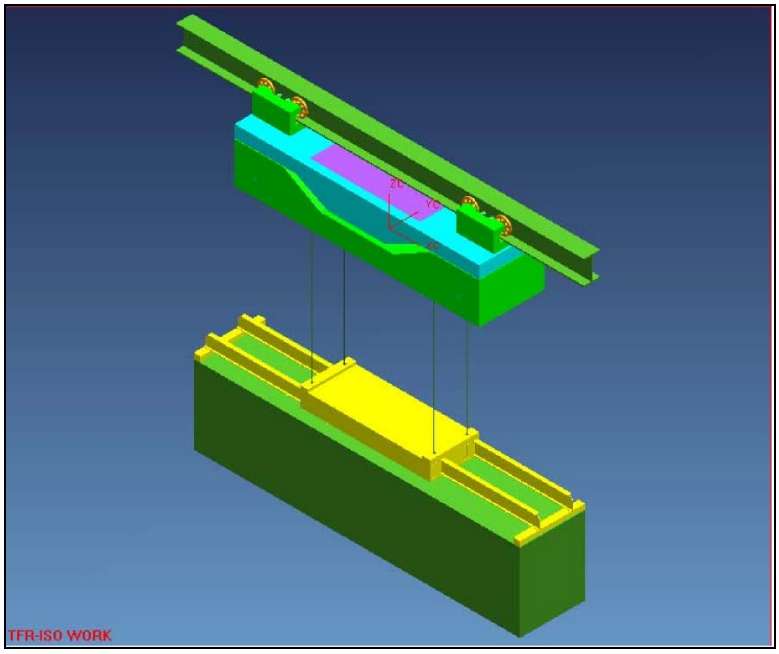


Titan has built and tested a scale model of the Auto-GO system. The technologies used in the Auto-GO system guideway, switches, and movement control system have been tested in the field and use of linear induction motors have been proven in operation of the monorail people-movers that Titan built in Miami, Florida; Pomona, California; and Dallas, Texas.

GRail

An Illinois Institute of Technology team developed a conceptual intra-yard GRail (Grid-Rail) system that utilizes linear induction motor technology. (Exhibit 5)

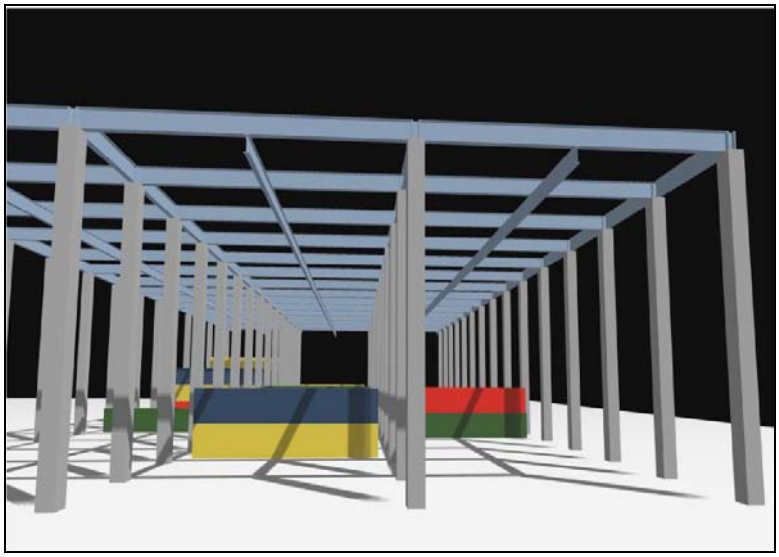
Exhibit 5: GRID Rail (GRAIL) Concept



Much of this concept was developed over a period for Sea-Land Corporation by August Design, Inc., originally for ship-to-shore application, and was not widely documented until 2000. Exhibit 6 shows the elevated Grail grid structure, similar to the Auto-GO concept shown in Exhibit 4.

The team also designed an elevated structure to move containers between terminals using a LIM vehicle. This between-yard structure provides for connecting freight nodes and allows for expansion capability by providing space for the under-hung GRail shuttle.

Exhibit 6: GRAIL Terminal Grid Structure



Maglev Systems

By adding magnetic levitation to LIM propulsion, Maglev proposals offer reduced friction, reduced noise, and higher speeds (Exhibit 7). These systems are also envisioned as fully automated. TransRapid International (a joint venture between Siemens and Thyssen-Krupp) is perhaps the farthest along in developing a Maglev container transport concept. TransRapid envisions a dedicated express container system connecting the ports to the Inland Empire, to Victorville, and to Beaumont, with capacity for five million containers per year.

The Center for the Commercial Deployment of Transportation Technologies (CCDoTT) at California State University, Long Beach, has considered a number of rights-of-way for a Maglev system. An important consideration with respect to right-of-way is the ability of Maglev freight systems to climb steep grades. The freight Maglev system is claimed to be able to carry containers up a 6% grade, versus 3% for conventional rail. The 6% claimed maximum grade for freight Maglev matches the maximum grade on Interstate highways, suggesting Maglev rights-of-way along interstate medians (assuming such medians are available).

Exhibit 7: Detailed View of General Atomic's EDS Maglev Design

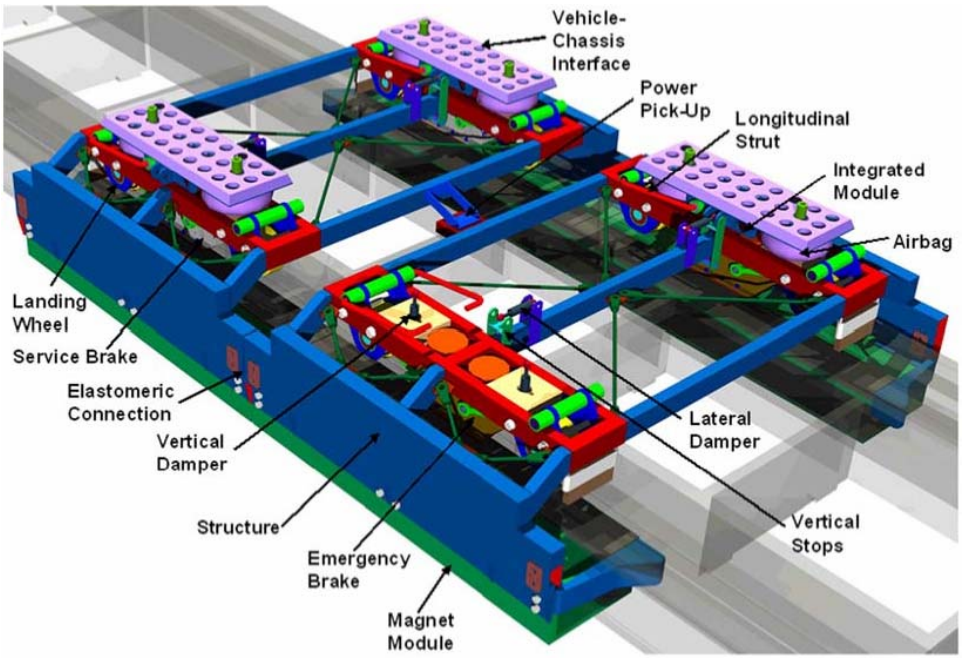
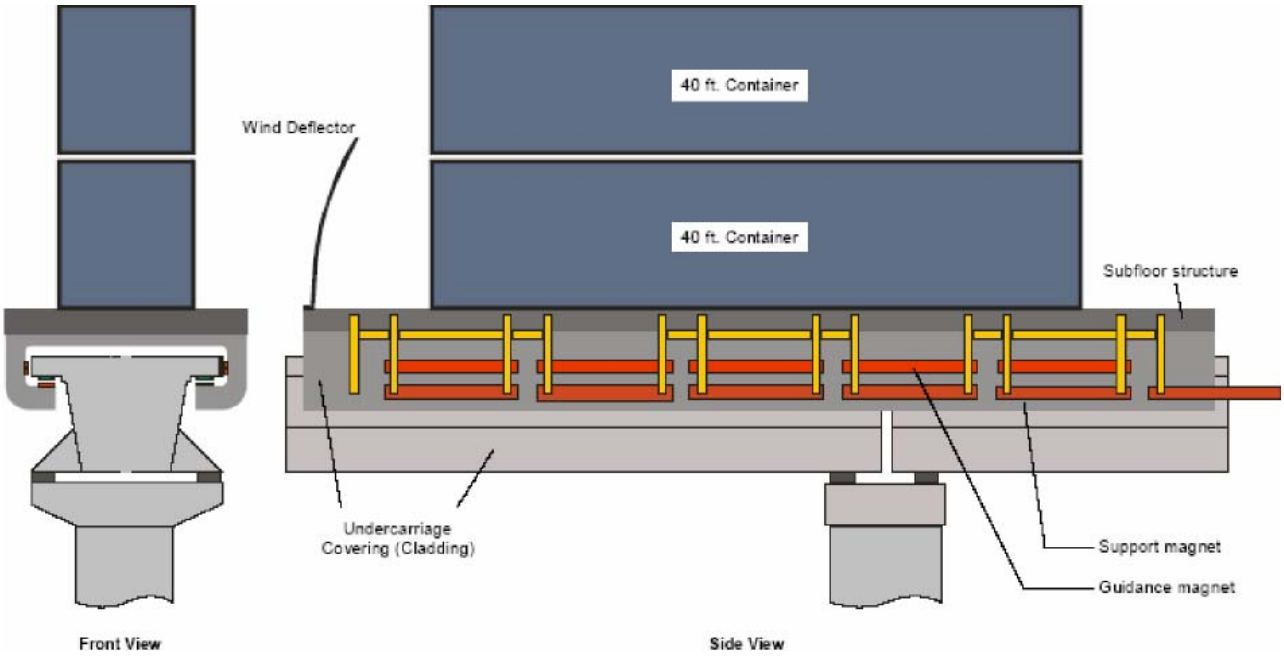


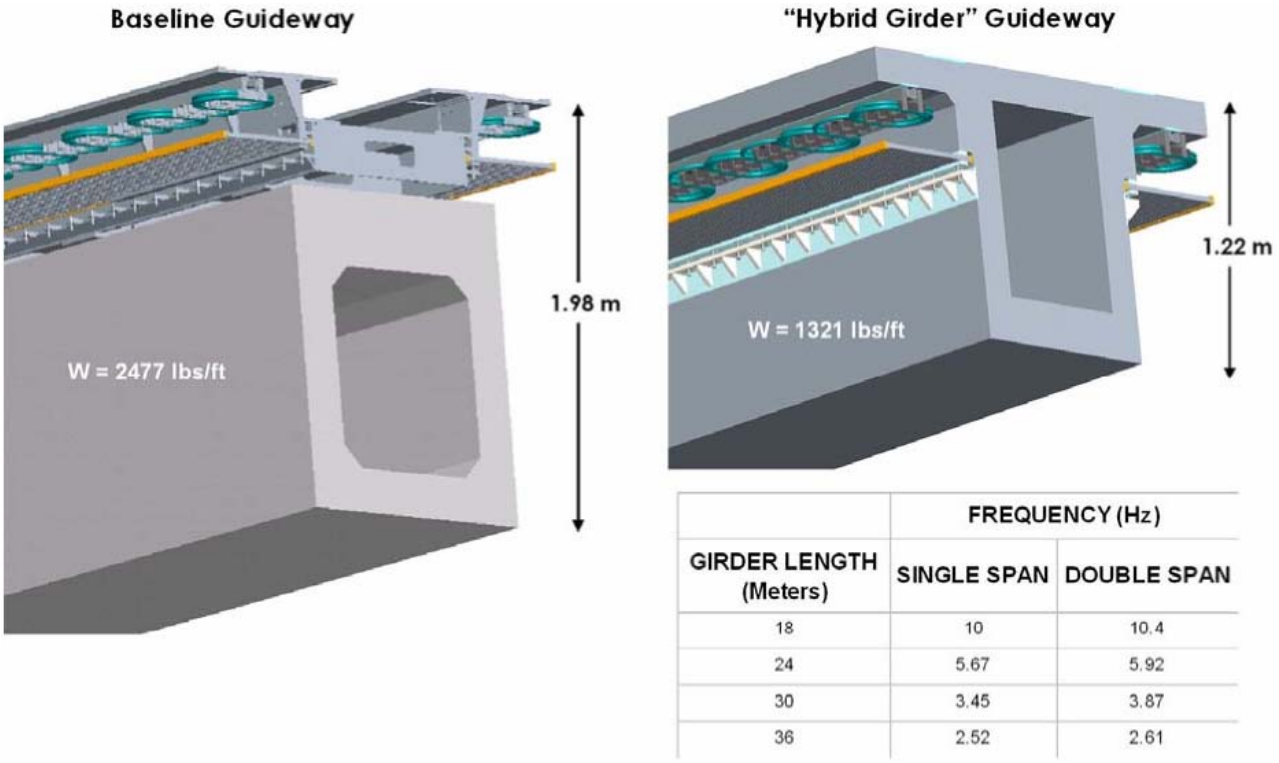
Exhibit 8 shows the TransRapid freight design in a double-stack configuration.

Exhibit 8: TransRapid Maglev Concept



The combined height of guideway (Exhibit 9), vehicles (Exhibit 7), and two high-cube (9'6") containers would be 25' – 27', meaning a double-stack Maglev system would not fit under Interstate overpasses. A single-stack Maglev system would be 15' – 17' high, and would have to be depressed in the median to fit under most freeway overpasses.

Exhibit 9: TransRapid Maglev Guideway Concepts



	FREQUENCY (Hz)	
GIRDER LENGTH (Meters)	SINGLE SPAN	DOUBLE SPAN
18	10	10.4
24	5.67	5.92
30	3.45	3.87
36	2.52	2.61

Exhibit 10 shows a conceptual Maglev system linking a single port terminal with an inland terminal. The design shows two-unit and four-unit Maglev vehicles, instead of the single vehicles in most system proposals. The diagram also reflects the need for crossovers, maintenance facilities, and storage facilities ignored by other, less detailed proposals.

The terminals shown in Exhibit 10 include marshalling areas and "container storage/retrieval systems". Note that only one port terminal and only one terminal are shown. The system complexity would increase dramatically if the system were to serve multiple terminals on each end.

In common with the other fixed-guideway proposals the Maglev system may require completely rebuilding or replacing existing marine terminals. Exhibit 11 shows a terminal concept developed by TransRapid. The automatic container storage/retrieval system has not been designed, although several concepts have been developed by other authors for similar systems, none have been built. Each terminal served by the Maglev system would need a comparable system.

Exhibit 10: TransRapid's Port to Inland Intermodal Layout

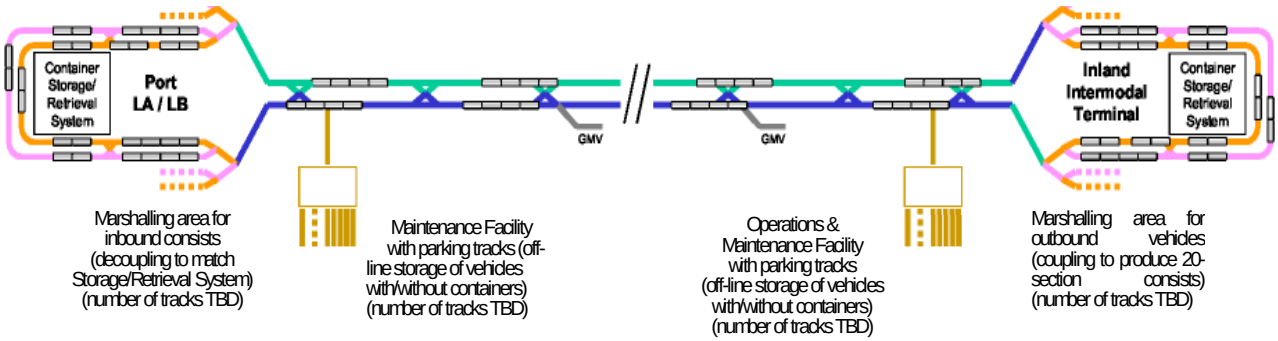


Exhibit 11: Maglev Terminal Concept

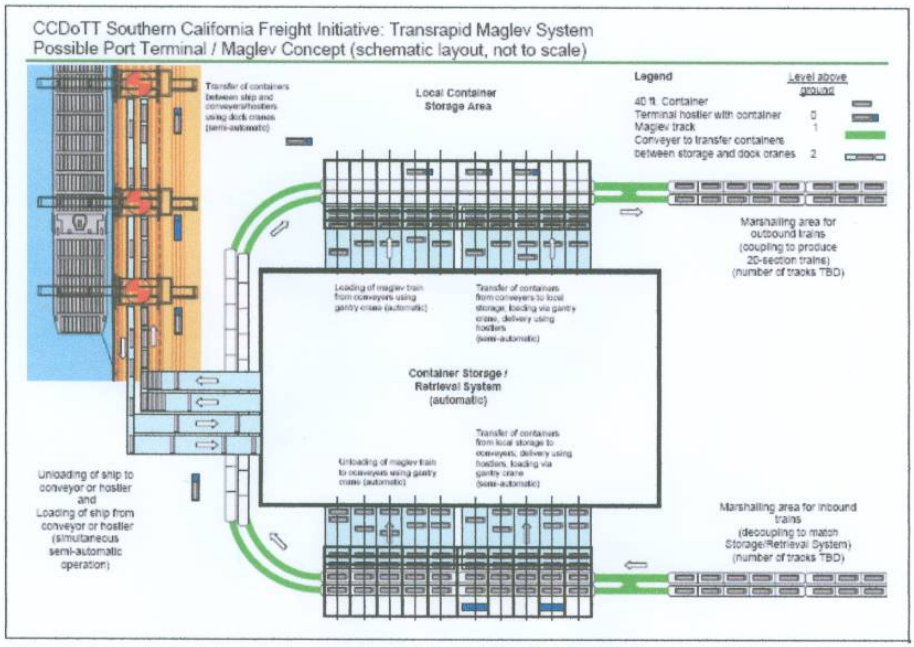
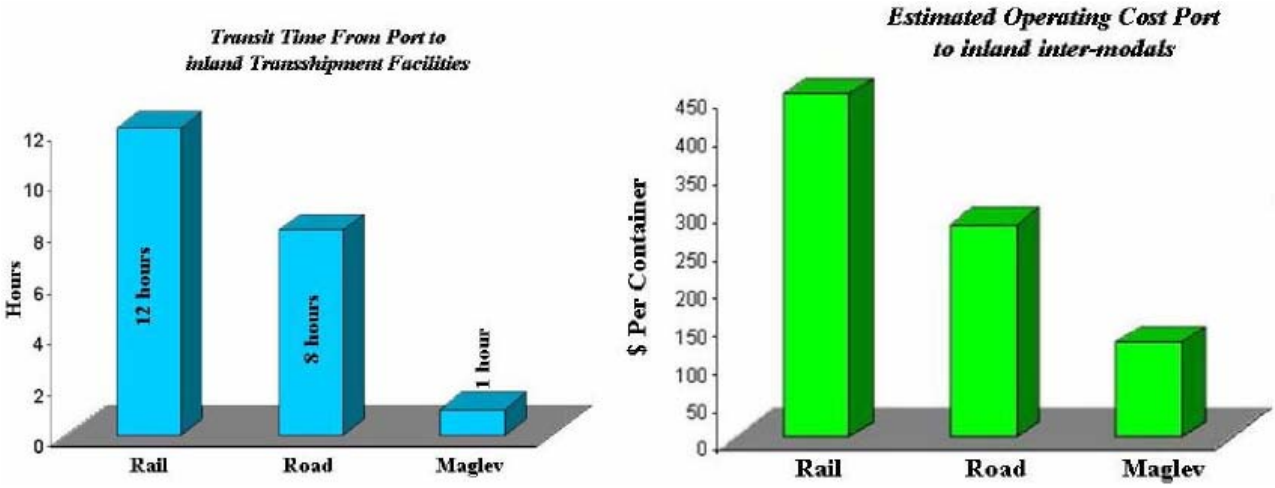


Exhibit 12 shows estimates of relative transit times and operating costs for a 100-mile trip.

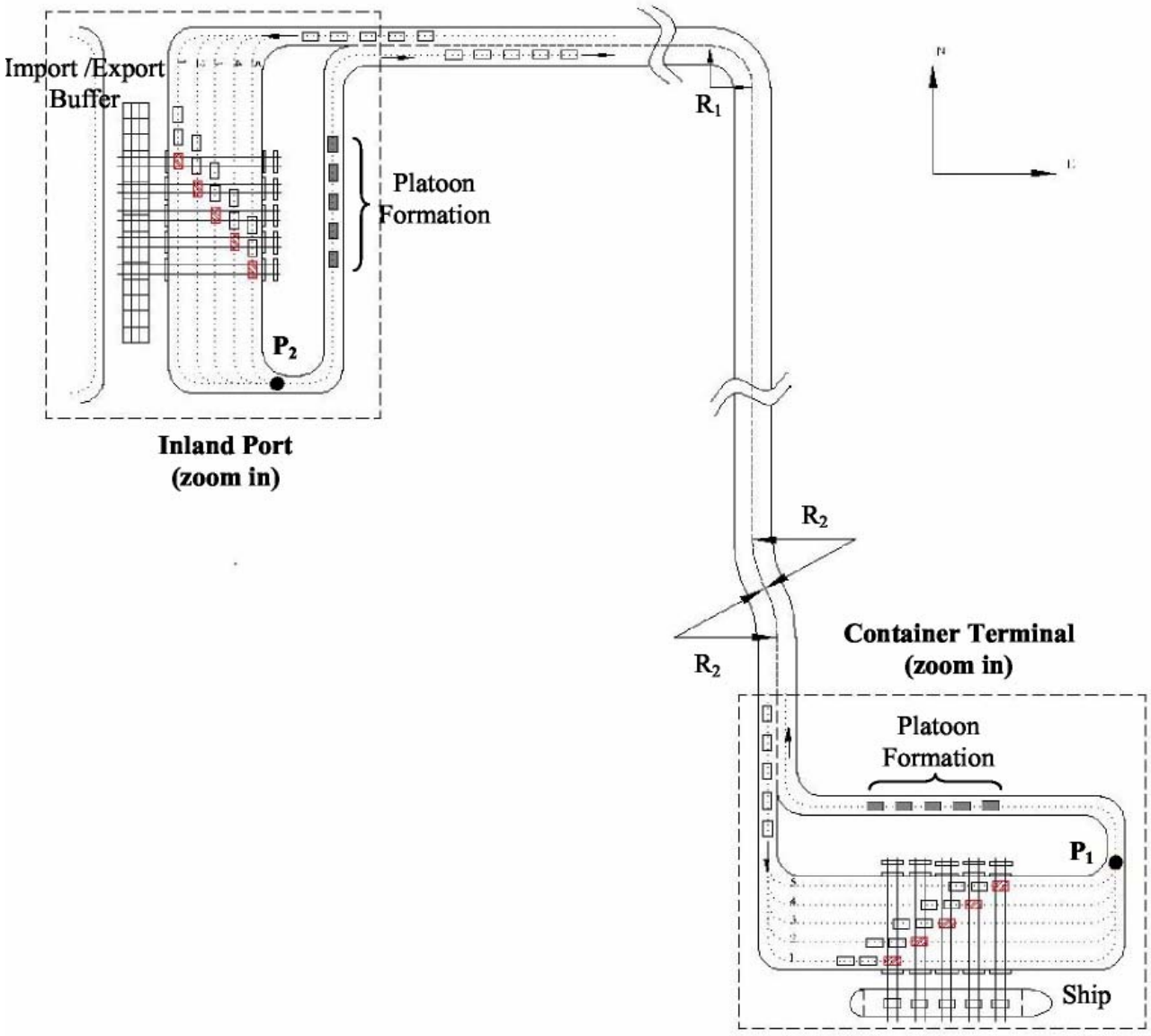
Exhibit 12: Proponents' 100-mile Transit Time and Cost Estimates



Automated Truck Platoons

Another approach for transporting goods calls for groups of remote controlled, automated trucks traveling on exclusive roads. The proposed system (Exhibit 13) includes reconfigured marine and inland terminals with automated multi-lane cranes.

Exhibit 13: Conceptual Automated Truck Platoon System



Automated guided vehicles (AGVs) have been proposed and studied in several instances. The Delta Terminal at the Port of Rotterdam has been operating AGVs to transport containers within the terminal, while other European and Asian ports are reportedly experimenting with similar systems.

The system proposed for port to inland trip is much more ambitious. Since the automated trucks would be required to transport containers between a port and an inland port some distance away, they will need to travel at much higher speeds than the AGVs operating inside container

terminals. The Center of Transport Technology in the Netherlands studied a container transport system, called "Combi-Road", in which each container is pulled on a semi-trailer of an unmanned vehicle, and the vehicles are electrically driven along specially designed tracks. The proposed system is composed of automated trucks, automated cranes and a central control system. The central system would contain all the information on transportation tasks and road geometry, acquire real time information, and issue commands for all of the trucks, cranes, etc.

Automated trucks would transport containers on a dedicated road. Inside the terminals containers would be handled by automated cranes. An automated truck would be issued commands for carrying a container from the inland port, joining a platoon, speeding up to a desired speed, cruising while on the road, slowing down when entering the container terminal, positioning itself under a quay crane for unloading, then repeating the cycle.

It is envisioned that all import containers would be transported to the inland port before they are distributed to different destinations, and all the export containers would be processed in the inland port before they are transferred to the container terminal.

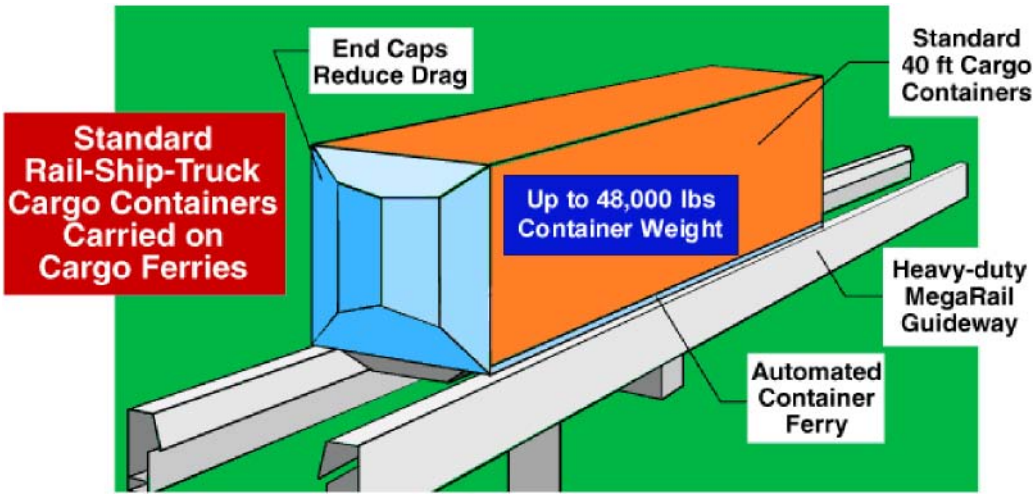
Currently, this system is strictly conceptual. Simulations of its performance connecting one marine terminal to one inland port have been conducted, but none of the equipment has been designed or demonstrated and more complex multi-terminal operations have not yet been addressed.

Automated Rail Vehicles

CargoRail

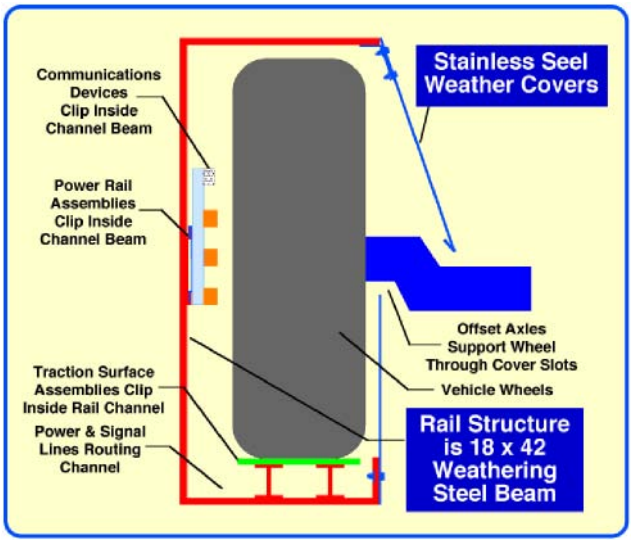
The CargoRail concept developed by the MegaRail Transportation Systems, Inc. employs rubber-tired vehicles (referred to as "Cargo Ferries") that would move along an exclusive elevated guideway (Exhibit 14).

Exhibit 14: CargoRail System



Each vehicle would operate individually, but would be fully automated and centrally controlled. Vehicles would operate on an enclosed weatherproof guideway (Exhibit 15).

Exhibit 15: CargoRail Guideway Concept



MegaRail Transportation Systems claims that this system is ready for a non-stop, 24-hour, 7-day a week operation at operational speeds of up to 75 mph. The maximum designed payload per vehicle is 50,000 lbs. This proposal appears to be derived from MegaRails' similar proposals for people movers.

CargoMover

Another proposal calls for automated vehicles operating over conventional railroad tracks, each carrying a single container (Exhibit 16). A variation on this proposal would equip each vehicle to load or unload itself. CargoMover technology is designed to utilize the European and wireless control systems, which are currently being deployed on several railway systems in Western Europe. CargoMover can also operate in conjunction with other train control systems. Siemens is currently testing several CargoMover vehicles.

Exhibit 16: Seimens Transportation CargoMover

Cost Analysis

While cost estimates for many of the technology options referenced above are not readily available, recent studies include limited investment cost evaluations which provide an order of magnitude in terms of capital and operating cost structures for such systems.

The CCDoTT, for example, conducted a feasibility study of a high speed intermodal corridor from the ports of Los Angeles/Long Beach out to the Inland Empire (Victorville and Beaumont). The lower end of the cost range in Table 3 reflects CCDoTT's preliminary estimate for a Maglev-Freight system. The higher end of the cost range assumes additional cost adjustments per SCAG's initial review of CCDoTT's findings.

Table 3
Preliminary Cost Estimate for Maglev-Freight System

Cost Category	Cost Range
Capital Cost 200 track-mile Maglev-freight system to Victorville and Beaumont. Lower end of cost range per CCDoTT evaluation; higher end per SCAG's review—includes direct connection to port terminals and main service lines. Does not include right-of-way costs and does not include car costs.	$26 billion to $28 billion
Operating Cost Lower end of cost range per CCDoTT evaluation at $40 per container plus $110 per load/unload lifts; higher end of cost range per SCAG's review—adjusts for prevailing market lift rates, round trip operating costs, depreciation, and final dray costs. Does not include maintenance costs.	$150 per container to $440 per container

The CCDoTT study cites a number of cost considerations for analyses including vehicle capital cost, guide-way infrastructure, cost of energy supply, right-of-way and environmental considerations as well as operations and maintenance costs.

Initial findings indicate that the overall investment cost of a freight system using Maglev technology can be comparable to that of a passenger system. In terms of vehicle capital costs, configurations may change to accommodate freight, however, there may be offsetting cost factors such as length of freight vehicles (can be shorter) and on-board equipment (not necessary for freight service). Accordingly, the cost per section of freight vehicles is less than that of passenger vehicles. Nevertheless, the total number of sections needed to accommodate the volume of goods moving through the southern California region would be substantial.

Guideway infrastructure would require slightly different configurations due to higher loads. But the overall design and construction would be simpler than that of passenger systems. Further, CCDoTT estimates that the cost of energy supply and propulsion system for freight would be comparable to passenger systems. Right-of-way and environmental considerations would be less for freight—requiring slightly smaller horizontal clearance; also, a freight system would be traveling at lower speeds than passenger service, thereby minimizing the need for noise protection measures along the route.

Finally, CCDoTT's preliminary cost considerations indicate that freight terminals would need to be highly automated such that operating personnel costs would not be significant; nevertheless more maintenance personnel would be necessary due to the greater number of substations needed for freight. In addition, because the systems involve automated control of unmanned vehicles, the costs of vehicle control systems is not known. Furthermore, it is not clear what the cost of assembling and acquiring right-of-way needed to construct these systems would be.

These are all significant cost considerations that need to be fully analyzed in detail; additionally, studies need to be initiated to gauge costs associated with the reconfiguration of terminals that would accommodate proposed alternative technology systems. Overall, a comprehensive evaluation of the costs and benefits of alternative freight technology options is needed to help guide decision-makers as they evaluate strategies to optimize the region's goods movement transportation system.

Next Steps

In addition to pursuing business plans to implement the HSRT and truck-only lanes previously discussed, studies are currently underway or will begin in the near future to further assess the potential of alternative freight technologies and determine the extent to which such technologies offer advantages over conventional truck and rail transportation in terms of shipping time and reliability, congestion and environmental mitigation, and cost.

The first is the SCAG Inland Port Feasibility Study, which will not analyze specific technologies but will instead examine the additional options for inland port locations, configurations, or functions that an alternative freight technology system may create. This study is currently in progress and is expected to be completed by June 2007.

The second is the Ports of Los Angeles and Long Beach Advanced Cargo Transportation Technology Evaluation and Comparison (ACTTEC) study, which is currently in the Request for Proposals (RFP) process. This study will evaluate the use of advanced technologies for moving containers from the Ports relative to conventional truck drayage with the goal of supporting sustainable operations while improving the quality of life in the communities around the Ports and along the major goods movement corridors.

The third is a SCAG study on the Feasibility of Innovative Freight Technologies, which will build on the work conducted in the ACTTEC study and examine the potential of alternative technologies to transport marine containers, as well as other non-port related goods, to locations in the SCAG region. Finally, it is anticipated that a study of container movements via alternative freight technologies will be conducted as part of the I-710 Environmental Impact Report (EIR)/Environmental Impact Study (EIS).

TRANSPORTATION CONTROL MEASURES

Background

TCMs are defined as strategies that adjust trip patterns or otherwise modify vehicle use in ways that reduce air pollutant emissions, and which are specifically identified and committed to in the most recently approved AQMP/SIP. TCMs are included in the AQMP as part of the overall control strategy to demonstrate the region’s ability to come into attainment with the NAAQS.

Historically, the majority of emission reductions from mobile sources have come from technological improvements in vehicle engines and fuel, which are stipulated by U.S. EPA and

CARB. By law, and according to the Transportation Conformity Rule, vehicle technology-based, fuel chemistry-based and fleet maintenance-based measures cannot be considered as TCMs for timely implementation purposes.

A definition of TCMs is provided in EPA's Transportation Conformity Rule - 40 CFR Parts 51 and 93:

> Transportation control measure (TCM) is any measure that is specifically identified and committed to in the applicable implementation plan that is either one of the types listed in §108 of the CAA, or any other measure 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. Notwithstanding the above, vehicle technology-based, fuel-based, and maintenance-based measures which control the emissions from vehicles under fixed traffic conditions are not TCMs for the purposes of this subpart.

The Rule also defines the criteria and procedures for timely implementation of TCMs as follows:

> §93.113 Criteria and procedures: Timely Implementation of TCMs
>
> (c) For TIPs, this criterion is satisfied if the following conditions are met:
>
> (1) An examination of the specific steps and funding source(s) needed to fully implement each TCM indicates that TCMs which are eligible for funding under title 23 U.S.C. or the Federal Transit Laws are on or ahead of the schedule established in the applicable implementation plan, or, if such TCMs are behind the schedule established in the applicable implementation plan, the MPO and DOT have determined that past obstacles to implementation of the TCMs have been identified and have been or are being overcome, and that all State and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding of TCMs over other projects within their control, including projects in locations outside the nonattainment or maintenance area.
>
> (2) If TCMs in the applicable implementation plan have previously been programmed for Federal funding but the funds have not been obligated and the TCMs are behind the schedule in the implementation plan, then the TIP cannot be found to conform if the funds intended for those TCMs are reallocated to projects in the TIP other than TCMs, or if there are no other TCMs in the TIP, if the funds are reallocated to projects in the TIP other than projects which are eligible for Federal funding intended for air quality improvement projects, e.g. the Congestion Mitigation and Air Quality Improvement Program.
>
> (3) Nothing in the TIP may interfere with the implementation of any TCM in the applicable implementation plan.

CAA Section 108(f)(1)(A)[6] lists the following sixteen measures as illustrative of TCMs.

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.

In addition to the measures listed above, other measures may be considered as TCMs if they reduce emissions or concentrations of air pollutants from transportation sources by modifying vehicle use, changing traffic flow, or mitigating traffic congestion conditions. TCMs may be voluntary programs, incentive-based programs, regulatory programs, as well as market- or pricing-based programs.

Based on suggestions received from interagency consultation and discussions with transportation and air quality stakeholders via the Transportation Conformity Working Group (TCWG), SCAG formally refines the types of projects to be included as TCMs as appropriate during the AQMP/SIP and/or RTIP and RTIP Guidelines development process. During the regular update cycle for each of the listed documents, SCAG, in coordination with the TCWG, will refine and

[6] See: http://www.epa.gov/oar/caa/contents.html

revise TCM descriptions and definitions in order to clarify the general TCM process as well as resolve specific implementation issues. It is SCAG's aim to work with County Transportation Commissions (CTCs),air quality stakeholders, and any other interested parties, primarily through the TCWG, to facilitate the TCM process and implement TCMs appropriately.

It is SCAG's responsibility to ensure that TCM strategies are funded in a manner consistent with the implementation schedule established in the RTIP at the time a project is identified as a committed TCM. The transportation conformity process is designed to ensure timely implementation of TCM strategies. If the implementation of a TCM strategy is delayed, or if a TCM strategy is only partially implemented, the emission reduction shortfall must be made up by either substituting a new TCM strategy or by enhancing other control measures through the substitution process described in this Appendix.

2007 AQMP TCMs

The TCMs included in this Appendix are derived from the TCM projects listed in the first two years of the 2006 RTIP. The RTIP is the short-range vehicle used to implement the goals and objectives of the long-range RTP. The 2006 RTIP includes projects committed as TCMs in previous RTIPs but not yet completed as well as new TCMs. A list of the TCM projects can be found in Attachment A of this Appendix.

The enforceable commitment for the TCMs is to fund and implement projects and programs contained in the first two years of the current six-year RTIP. The remaining four years of the RTIP represent expectations in project scope and design only. The TCM projects in the RTIP are based on the projects planned in the RTP, which has a time horizon of 20 years. A full, illustrative list of these RTP projects can be found in Technical Appendix I of the 2004 RTP and Attachment B of this Appendix. Although the specific mix of projects to be funded with future RTIP dollars may ultimately change, the emission reductions anticipated, in aggregate, from these projects, set a key benchmark in determining the transportation sector's contribution to a mobile source emission budget and its associated conformity determination.

Rollover and Substitution of TCM Projects

Each time the biennial RTIP is updated by action of SCAG's Regional Council, the entire list of TCM projects in the AQMP/SIP will be updated, and the new and continuing projects identified in the fiscally constrained first two years of the new RTIP will be rolled over into the AQMP/SIP. In the event that a specific TCM project is found to be non-implementable within the designated time frame, an appropriate TCM will be used as a substitute. In either case, the parties in the conformity rule interagency consultation process, established in the SCAG region as the TCWG, shall assess the suitability and implementability for the new TCM projects. Where a transportation control measure identified in the SIP is no longer implementable, SCAG may initiate the process described below in the section "Substitution of Individual TCM Projects" to identify and adopt a new control measures.

Rollover of TCM Projects (RTIP Update)

Approximately every two years, as the RTIP is updated, additional TCMs will be added to the AQMP/SIP based on the new RTIP and the RTIP Guidelines. The "rollover" of TCMs will update the AQMP/SIP to include new projects in addition to ongoing projects from previous RTIPs. The TCMs "rolled over" will be monitored for adherence to the schedule established in the RTIP at the time a project is identified as a committed TCM. The identification of TCMs from the RTIP shall be agreed upon by both SCAG and the appropriate CTCs.

For tracking and monitoring purposes, SCAG prepares a timely implementation report with each RTIP. Once a TCM project or program is committed for implementation in the first two years of the RTIP, that project must be implemented by the completion date in the prevailing RTIP or timely implementation report. Completed projects (projects that have completed construction or have service in place) will be reported as complete and removed from the timely implementation report. The list of TCMs included in the AQMP/SIP does not include a timely implementation report.

The rollover process will apply to any RTIP that requires a full conformity analysis and finding. Generally, a new RTIP is required every two years in accordance with state and federal planning requirements. However, a new RTIP can be more frequent, for example a new RTIP is required within six months of the adoption of a new RTP. The described TCM rollover process shall apply in such cases as well.

Adoption Procedures for RTIP Rollover of TCM Projects

The rollover of the RTIP must be adopted by SCAG's Regional Council, in accordance with the RTIP adoption process, as described below.

- The Draft RTIP is reviewed by various SCAG Committees, Task Forces, and Working Groups, such as the standing Transportation and Communication Committee, and the Technical Advisory Committee;
- The Transportation Conformity Working Group (TCWG), which serves as the interagency consultation group, reviews the proposed TCMs and RTIP;
- Public notification is provided through major newspapers in the affected sub-regions as well as on SCAG's website;
- Draft RTIP materials are distributed, with appropriate cover letters, to approved public libraries and facilities and also made available on SCAG's website for access by the public;
- Input received is compiled and analyzed, and responses to comments are provided by SCAG Staff, and made available to the public;
- A summary of comments received during the public comment period along with SCAG's responses, following the close of the public comment period, is incorporated into the final RTIP;
- The Final RTIP is adopted by SCAG's Regional Council;

- SCAG's adopted RTIP is submitted to the State for funding approval and to the federal agencies (FHWA, FTA and EPA) for final funding and conformity approval; and
- Upon federal approval of the RTIP, the new TCMs become part of the applicable AQMP/SIP.

Substitution of Individual TCM Projects

The CTCs and/or project sponsors shall notify SCAG when a TCM project cannot be delivered or will be significantly delayed. SCAG and the CTCs will identify and evaluate possible replacement measures for individual substitutions, through the TCWG, which includes members from all affected jurisdictions, federal, state and/or local air quality agencies and transportation agencies.

Substitution of individual TCMs will follow the process specified in the CAA section 176(c). Section 176(c) of the CAA allows for the substitution of individual TCMs if certain conditions are met. These include:

"(i) if the substitute measures achieve equivalent or greater emissions reductions than the control measure to be replaced, as demonstrated with an emissions impact analysis that is consistent with the current methodology used for evaluating the replaced control measure in the implementation plan;
"(ii) if the substitute control measures are implemented-

- "(I) in accordance with a schedule that is consistent with the schedule provided for control measures in the implementation plan; or
  "(II) if the implementation plan date for implementation of the control measure to be replaced has passed, as soon as practicable after the implementation plan date but not later than the date on which emission reductions are necessary to achieve the purpose of the implementation plan;

"(iii) if the substitute and additional control measures are accompanied with evidence of adequate personnel and funding and authority under State or local law to implement, monitor, and enforce the control measures;
"(iv) if the substitute and additional control measures were developed through a collaborative process that included--

- "(I) participation by representatives of all affected jurisdictions (including local air pollution control agencies, the State air pollution control agency, and State and local transportation agencies);
  "(II) consultation with the Administrator; and
  "(III) reasonable public notice and opportunity for comment; and

"(v) if the metropolitan planning organization, State air pollution control agency, and the Administrator concur with the equivalency of the substitute or additional control measures.

In addition to the conditions above, the substitute project shall be in the same air basin and preferably be located in the same geographic area and preferably serve the same demographic subpopulation as the TCM being replaced.

A substitution does not require a new conformity determination or a formal SIP revision. Adoption of the new TCM in coordination with EPA concurrence will rescind the original TCM and apply the new measure.

SCAG will maintain documentation of all approved TCM substitutions. The documentation will provide the emissions analysis as well as a description of the substitution process, including a list of the committee or working group members, public hearing and comment process, and evidence of SCAG adoption. Compliance with the provisions listed above will ensure adequate emissions reductions are achieved in a TCM substitution.

TCM Implementation

The TCM measures and strategies listed in Attachment A of this Appendix replace the TCM strategies contained in all previous AQMPs/SIPs. Table 4 provides an outline of the categories of TCMs in the 2006 RTIP and 2007 AQMP. As outlined in Table 4, the TCMs include the following three main categories of transportation improvement projects and programs.

- High occupancy vehicle (HOV) measures,
- Transit and Systems Management measures, and
- Information-based Transportation Strategies.

In the event a question arises as to whether a specific project is a TCM, that project should go to the TCWG for clarification. The agencies and parties at the TCWG will review the project and determine whether the project meets the definition of a TCM. This process also applies in the event that a CTC, or other party, wishes to dispute a particular TCM and remove it from the RTIP and the AQMP/SIP.

Table 4
TCM Project Categories (Based on the 2006 RTIP

Project Description
A. High Occupancy Vehicle (HOV) Measures *HOV projects, and their pricing alternatives.*
▪ New HOV Lanes – Extensions and Additions to Existing Facilities
▪ New HOV Lanes – With New Facility Projects
▪ New HOV Lanes – With Facility Improvement Projects
▪ HOV to HOV Bypasses, Connectors, and New Interchanges with Ramp Meters
▪ High Occupancy Toll (HOT) Lanes and Pricing Alternatives

Table 4 (continued)
TCM Project Categories (Based on the 2006 RTIP)

B. Transit and System Management Measures *Bus, rail and shuttle transit expansion and improvements; park and ride lots and inter-modal transfer facilities; bicycle and pedestrian facilities; railroad consolidation programs such as the Alameda Corridor, grade separation projects, channelization, over-passes, underpasses; traffic signalization; intersection improvements.*
Transit
▪ Rail Track – New Lines
▪ Rail Track – Capacity Expansion of Existing Lines
▪ New Rolling Stock Acquisition – Rail Cars and/or Locomotives
▪ Express Busways – Bus Rapid Transit and Dedicated Bus Lanes
▪ Buses – Fleet Expansion
▪ Shuttles and Para-transit Vehicles – Fleet Expansion
Intermodal Transfer Facilities
▪ Rail Stations – New
▪ Rail Stations – Expansion
▪ Park & Ride Lots – New
▪ Park & Ride Lots – Expansion
▪ Bus Stations & Transfer Facilities – New
▪ Bus Stations & Transfer Facilities – Expansion
Non-motorized Transportation Mode Facilities (non-recreational)
▪ Bicycle & Pedestrian Facilities – New
▪ Bicycle & Pedestrian Facilities – Expansion
▪ Bicycle Facilities – New
▪ Bicycle Facilities – Expansion
▪ Pedestrian Facilities – New
▪ Pedestrian Facilities – Expansion
C. Information-based Transportation Strategies *Programs that promote and popularize multi-modal commute strategies to maximize alternatives to single-occupancy vehicle commute trips; marketing and promoting the use of HOV lanes or rail lines to the general public; educating the public regarding cost, locations, accessibility and services available at Park and Ride lots; promoting and marketing vanpool formation and incentive programs; promoting ride-matching services through the Internet and other means of making alternative travel option information more accessible to the general public; Urban Freeway System Management improvements; Smart Corridors System Management programs; Congestion Management Plan-based demand management strategies; county-/corridor-wide vanpool programs; seed money for transportation management associations (TMAs); and TDM demonstration programs/projects eligible for programming in the RTIP.*
▪ Marketing for Rideshare Services and Transit/TDM/Intermodal Services
▪ Intelligent Transportation Systems/Control System Computerization
▪ Telecommuting Programs/Satellite Work Centers
▪ Real-time Rail, Transit, or Freeway Information Systems (changeable message signs)

Relation of Current TCM Components to Previous Plans

The TCM components listed in the 2007 AQMP are consistent with the TCM elements proposed in previous plans, and meet the anti-backsliding requirements of Section 110(l) of the CAA. The CAA restricts EPA's ability to approve state actions that weaken the California SIP. Therefore, the requirements must strengthen the SIP and not interfere with an applicable requirement under the CAA. All TCM commitments from previous AQMPs have been implemented and documentation is provided in the Timely Implementation Reports of the 2006 RTIP and previous RTIPs. The TCMs in the 2007 AQMP continue SCAG's TCM commitment and the TCM status will be reported in the Timely Implementation Reports of subsequent RTIPs.

The 1994 AQMP lists one TCM, comprising various specific strategies (Table 5). Substantial progress has been made in implementing these measures, and the region remains committed to assuring continued implementation.

Table 5
TCMs from 1994 AQMP (TCM1*)

Transportation Improvements	Current Status
HOV Lanes	On going
Transit Improvements	On going
Park and Ride Facilities	On going - expanded to include all facilities that substantially promote transfer across modes of travel.
Traffic Signal Improvements	On going - focus is on projects that substantially improve regional system flow
Urban Freeway Systems Management Improvements and Smart Corridors	On going - Intelligent Transportation Systems/Control System Computerization
Operational Improvements (Flow improvements, Congestion relief)	On going – focus is on projects that substantially improve regional system flow
Rideshare Programs	On going
TDM Programs	On going
Bicycle Facility Improvements	On going - expanded to include pedestrian facilities as well.

* AQMP Appendix IV-C, September 1994, Pg. II-14 – II-16

In addition to the TCM strategies specified above, indirect source measures (ISRs) were also considered as TCMs in the 1994 AQMP, and were planned for AQMD rule development (Table 6). However, the legislature has reduced the AQMD's legal authority to implement ISR measures.

Table 6
Indirect Source Controls – 1994 AQMP

ISR 1	Special Event Centers	See H&S 40717.8, 1994
ISR 2	Regional Shopping Centers	See H&S 40717.6, 1995
ISR 3	Registration and Commercial Vehicles	See H&S 40717.9, 1995
ISR 4	Airport Ground Access	See H&S 40717.9, 1995
ISR 5	Trip Reduction for Schools	See H&S 40717.9, 1995
ISR 6	Enhanced Rule 1501	See H&S 40717.9, 1995
ISR 7	Parking Cash-Out	See H&S 40717.9, 1995

A key step in the 1994 AQMP was the proposal for the formation of the Southern California Economic Partnership (SCEP, or The Partnership), intended to help develop many of the innovative and conceptual projects envisioned at that time. It should be noted that The Partnership has been established as an active and effective entity, and is vigorously pursuing these and other projects. These include: Intelligent Transportation Systems (ITS), Smart Shuttles, Telecommunications, Telecommuting Support, Alternative Fuel Vehicle Support and Voluntary Emission Reduction Program, the Clean Cities Program, and the Travel Advisory News Network (TANN) Project (see 2007 AQMP, Chapter 4 and http://www.the-partnership.org/index.htm).

TCM Enforceability and Monitoring

The TCM strategies contained in the AQMP are expected to be real, quantifiable, and enforceable. The region's long-range transportation blueprint (the previously triennial and now quadrennial RTP) and the shorter-term programming used to fund the improvements (the RTIP) together form the foundation and the keystone for improving transportation system performance while at the same time assuring the timely attainment of air quality goals within the Basin. Assessing the consistency of emissions deriving from these mobility strategies against the corresponding mobile source emission budgets contained in the applicable SIP serves as the basis for determining conformity to the SIP. The RTIP provides the information needed in assuring the timely implementation of TCM strategies described in this document.

The projects and programs that make up the RTP and RTIP form the basis for assuring an enforceable commitment for each TCM. Federal law requires that funding priority be given to TCMs in developing the RTIP. Therefore, the report on the timely implementation of TCMs will continue to serve as one of the methods of monitoring the air quality impacts of transportation system improvements.

The 2006 RTIP provides for timely implementation of the TCM strategies for the Basin. As the biennial element of the RTIP is revised, the list of fiscally constrained projects, or, rather, the list of projects for which funding has been identified, is updated. The U.S. EPA Transportation Conformity Rule states that timely implementation is to be measured against the TCM strategies in the applicable implementation plan.

The enforceable commitment for TCM measures is to report on the funding and implementation of the first two years of the six-year biennial RTIP. The list of fiscally constrained projects will advance, or "roll forward", and the enforceable commitment will automatically be revised to encompass the first two years of the constrained projects contained in each new RTIP. The implementation status of TCM projects is reported on in subsequent RTIPs until the TCM projects have been reported as completed. In projecting the long-term (2010, 2020, etc.) impacts which could be ascribed to this measure in the Plan, the facilities proposed to be built in the long-term timeframe, and programs as they exist today, serve as the basis for modeling travel and emission impacts.

REGIONAL TRANSPORTATION EMISSIONS

Based on the data generated from SCAG's Transportation Demand Model (e.g., traffic volumes, vehicle speeds, transit ridership, etc.), 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 versus a baseline case without RTP implementation.

One of the key goals of conventional transportation planning has been the provision of sufficient roadway capacity to reduce congestion and improve mobility through improvements to regional networks of highways and arterials. And, to the extent that congestion is relieved, there are significant regional air quality benefits to such flow-improving interventions. Thus, the emissions benefits historically demonstrated in previous AQMPs and air quality analyses performed for the RTP and the RTIP have been based on the congestion relief effects associated with both added infrastructure capacity and implementation of TCMs. It is generally understood, however, that potential future improvements in air quality deriving from the RTP and TCMs will 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). For instance, the emissions of ROG go from approximately 300 tons per day in 2005 to approximately 82 tons per day in 2030. Further, most of the TCM projects in the South Coast Air Basin were adopted into the SIP to meet the one-hour ozone standard by 2010 and have already been implemented. Thus, the emission reductions associated with these projects are now included in the baseline emissions and no longer show up in the TCM benefit values.

The modeling exercises performed for the Final Draft 2007 AQMP are intended to evaluate emissions associated with the transportation strategy (i.e., the RTP) relative to baseline conditions for ROG, NOx, and PM2.5. Additional modeling exercises were performed to estimate the contribution of TCMs and the Compass Growth Visioning program to the emissions profile of the overall transportation strategy. For the TCM modeling exercise, socio-economic data variables were held constant and the transportation network was modified to account for the TCMs. To estimate the benefits of Compass, the transportation network was held constant and socio-economic data associated with Compass was modified between baseline and project conditions. It must be noted, however, that the regional transportation strategy is appropriately

viewed on a systems-level basis and not by its components (e.g., TCMs, Compass, etc.) since each of the individual transportation improvements and strategies affect each other and the system. Isolating and summing the emissions effect of each transportation improvement and strategy cannot provide an accurate representation of the system's emissions because the interactions and feedback among these components alters the end results. Nevertheless, for purposes of discussion, Table 7 provides the results of the modeling analyses for the RTP as a whole as well as those for the TCM and Compass components of the RTP for the attainment years 2014 (PM2.5), 2020 (8-hour ozone), and 2023 (8-hour ozone assuming a "bump-up" to extreme nonattainment).

It should be noted that SCAG has been working with modeling experts and practitioners to develop a new Transportation Demand Model that is expected to more accurately forecast highway traffic volumes, speeds, and other aspects of the transportation system The new model is in the process of being calibrated and validated. Model runs, with a preliminarily calibrated and validated model, seem to be consistent with the interim model emissions in the South Coast.

Table 7
Transportation Strategy Emissions
(tons per day)

Pollutant	2010			2014			2020			2023		
	RTP	**TCMs**	**Compass**	**RTP**	**TCMs**	**Compass**	**RTP**	**TCMs**	**Compass**	**RTP**	**TCMs**	**Compass**
ROG	-2.86	**	***	-1.79	-1.04	***	-1.68	-0.83	-0.50	-1.74	-0.77	-0.67
NOX	-1.01	**	***	-0.01	-3.48	***	0.25	-2.20	-0.47	-0.21	-2.15	-0.64
PM2.5	-0.26	**	***	-0.24	-0.18	***	****	****	****	****	****	****

Notes: Negative value indicates an emissions reduction
PM2.5 and all 2014 values based on annual emissions inventory; all others are summer planning inventory
Does not include emission reductions associated with proposed goods movement control measures. See Attachment D.

* Does not include fugitive dust emissions.
** TCMs benefit shown for attainment years only
*** Implementation of Compass Growth Visioning Program occurs after 2014
**** PM2.5 attainment required by 2015

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. Environmental Protection Agency (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, 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. 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 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 those located in Arizona, Texas, and Washington, and the organization of those measures in the 16 categories specified in CAA Section 108(f). The third step is to determine RACM measures by contrasting the list of candidate measures with measures implemented to date in the South Coast Air Basin, as well as any new commitments 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 TCM Development Process

As defined by EPA, a TCM is any measure that is specifically identified and committed to in the applicable implementation plan that is either one of the types listed in Section 108(f)(1)(A) of the CAA, or any other measure 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.

While the implementation of TCMs has played a role in improving air quality in the South Coast Air Basin, these measures are yielding fewer emission reductions over time because of technological advances of vehicle fleets. Thus, the CAA's requirement to adopt all RACM is a driving force governing whether and which TCMs are necessary for the SIP. During SIP preparation, areas are obligated to evaluate TCMs and determine whether they qualify as RACM. The TCM process and RACM analysis run concurrently, rather than consecutively, with the transportation planning process.

The RACM process relies predominantly on a continuous updating and addition process for TCMs. The TCM process was established for the South Coast Air Basin by replacing 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 Transportation Conformity Working Group (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. Project sponsors have a strong incentive to develop and help identify TCMs because TCMs receive special consideration on Congestion Management and Air Quality (CMAQ) and Surface Transportation Program (STP) funds, and are assured timely implementation in accordance with the schedule in the RTIP. These funding and scheduling incentives ensure that TCMs are developed, sponsored, and clearly identified throughout the process.

The discussion below outlines the multiple processes and entities involved in the TCM planning process.

County Transportation Commissions

County Transportation Commissions must follow the most current RTIP Guidelines when preparing their lists of transportation improvements. The RTIP Guidelines state that "the RTIP is required to advance the RTP by programming the projects, programs, and policies contained in the Plan, in accordance with federal and state requirements."[7] As stated above, the RTIP Guidelines ensure that "TCMs require priority of funding (with special claim on CMAQ and STP funds), as well as timely implementation in accordance with the schedule in the RTP"[8]. The discussion below outlines the process used by Los Angeles County Metropolitan Transportation Authority (Metro), the Orange County Transportation Authority (OCTA), the San Bernardino Associated Governments (SANBAG), and the Riverside County Transportation Commission (RCTC) to develop their lists of transportation projects for each update of the RTIP and RTP.[9]

[7] Southern California Association of Governments. (October 2005). *Final 2006 Regional Transportation Improvement Programs Guidelines.* Los Angeles, CA.
[8] Southern California Association of Governments. (October 2005). *Final 2006 Regional Transportation Improvement Programs Guidelines.* Los Angeles, CA.
[9] Note, the other CTCs in the SCAG region (for Ventura and Imperial counties) are outside the South Coast Air Basin.

Los Angeles County Metropolitan Transportation Authority

The Metro begins its Transportation Improvement Program (TIP) process with a call for projects. The call for projects process meets federal and state planning and programming requirements for developing an integrated, multi-modal transportation system. The Call for Projects also addresses Metro's mandated responsibilities to the California Transportation Commission regarding the programming of the State TIP. There is a local match requirement that varies depending on the modal category and a public hearing before the Metro Board officially adopts the TIP. TCM projects are prioritized throughout Metro's process. In general, projects are evaluated based on three criteria: project need and purpose, cost effectiveness, and project readiness. Thus, TCM projects that are useful, economically feasible, and that are ready to be implemented in the near-term receive priority of funding and scheduling.

Orange County Transportation Authority

Cities in Orange County propose projects to OCTA through a competitive call for projects. OCTA, reviews and prioritizes the projects based on an approved set of criteria. Additionally, OCTA programs regionally significant projects that are of the highest importance to the County via the Comprehensive Funding Strategy and Long Range Transpiration Plan. Those projects that also qualify as TCMs are identified and included in the RTP and RTIP.

Riverside County Transportation Commission

The RCTC begins its process with a call for projects. RCTC staff and a RCTC Technical Advisory Committee comprised of local agency public works directors and senior planners review and evaluate projects for funding consideration against the funding criteria which may include air conformity benefits, mobility, congestion relief, safety, project readiness etc. per the eligibility parameters of the funds. Projects which meet the TCM criteria are identified immediately and a secondary review occurs to evaluate timely implementation and to ensure funding is committed to the project. Projects recommended for funding are sent to the RCTC Board for final approval. Approved projects are programmed in the RTIP with project monitoring then occurring on a quarterly basis to ensure the project is progressing satisfactorily.

San Bernardino Associated Governments

SANBAG conducts calls for projects. TCM projects receive priority for funding and implementation through application of evaluation criteria that reward projects that provide the greatest mobility and emissions benefit per allocated dollar.

Sub-regional Coordination and Regional Transportation Planning for Air Quality Management

The Subregional Coordinators Group is an important part of SCAG's participatory planning process and assists in balancing regional needs and prospects against local constraints and opportunities. Established in 1990, at the sub-region's initiative, the Group comprises administrators from Councils of Governments (COGs), cities and counties within the region and assists SCAG in the design and implementation of its administrative and programmatic tasks within realistic fiscal and local constraints.

The subregions help coordinate community outreach for discussion of the transportation policies, programs and projects, including effective and efficient TCM projects, nominated for inclusion in the long-range RTP and the short-range RTIP. SCAG then synthesizes these projects, programs and policies into a regionally coherent transportation strategy and assesses the environmental and equity consequences for the region as a whole.

Assembly and Review of Candidate RACM

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.

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 EPA (i.e. EPA TCM database, support documents for rulemaking, etc.).[10]

To develop a list of candidate RACM, SCAG performed a review of available TCMs in California, as well as in other states. SCAG reexamined the candidate RACM identified during the comprehensive RACM analysis performed for the 2003 AQMP. Additionally, SCAG coordinated with other MPOs and air quality districts to identify measures that are being implemented or considered in other nonattainment areas. SCAG reviewed TCMs implemented in California from various nonattainment areas (Sacramento, San Joaquin Valley, and the Bay Area). SCAG also coordinated with other agencies outside of the SCAG region in an effort to ensure that all RACM were considered (the Houston-Galveston Area Council [H-GAC] in Texas; Metropolitan Washington Council of Governments [MWCOG] in Washington D.C.[11;] the Maricopa County Air Quality Department in Arizona, and the North Central Texas Council of Governments [NCTCOG].[12] SCAG also utilized information from Arizona and Texas obtained in the 2003 AQMP RACM Analysis. The comprehensive list of candidate TCMs for RACM compiled in the UC Davis-Caltrans Air Quality Project, *Transportation Control Measures: Guidance for Conformity and State Implementation Plan Development* (August 2004), was also reviewed as part of the current RACM analysis.

Additionally, TCMs were discussed and reviewed at numerous TCWG meetings as part of the 2006 RTIP development process, as well as the development of this 2007 AQMP. Further, SCAG has an extensive and robust public participation process for the development of the RTP/RTIP through ongoing public meetings, and technical, advisory, and policy committees. These groups generally meet on a monthly basis and provide explicit opportunities for the public to participate and contribute.

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

- CAA Section 108(f)(1)(A)
- 2003 South Coast AQMP RACM Analysis
- Other nonattainment areas in California

[10] Seitz, John S. (December 14, 2000) 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.**

[11] Draft list of candidate RACM were used for reference only and not published. Per e-mail from Jeff King, Metropolitan Washington Council of Governments (MWCOG). (June 8, 2006).

[12] Texas Commission on Environmental Quality.(December 13, 2006). *Dallas-Fort Worth 8-hour Ozone Nonattainment Area Attainment Demonstration: Revisions to the State Implementation Plan (SIP) for the Control of Ozone Air Pollution*. Available at: http://www.tceq.state.tx.us/implementation/air/sip/dfw.html.

- Other nonattainment areas outside California
- Interagency Consultation (TCWG)
- RTP/RTIP Updates
- Candidate TCMs for RACM – UC Davis-Caltrans Air Quality Project[13]

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. EPA has left their definitions vague and has preferred to allow flexibility in each region's determination. EPA did not provide definitive guidance on "advancing attainment," but in practice, agencies have based their determination 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 National Ambient Air Quality Standards (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.

Similarly vague is U.S. EPA's definition for the second criterion - technical and economical feasibility. Technical feasibility has been determined in terms of local factors, such as environmental impacts, availability of control measure, and ability to achieve the emission reduction.[14] EPA has not set firm thresholds to determine economic feasibility. Cost-effectiveness has been considered a determining factor. As a recent example, the Maricopa Association of Governments defined economic feasibility based on guidance from California air agencies, which included AQMD and Bay Area Air Quality Management District guidelines. They established that TCMs at or below approximately $8,400 to $9,000 per ton of PM10 reduced annually were cost-effective.[15]

Determining RACM Measures

For this step of the RACM analysis, SCAG compared the list measures implemented within the South Coast Air Basin with those implemented in other areas. SCAG then organized all 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 number of candidate measures that were not currently implemented in the region and not included in the 2003 AQMP RACM analysis.

[13] UC Davis-Caltrans Air Quality Project. (August 18, 2004). *Transportation Control Measures: Guidance for Conformity and State Implementation Plan Development*.
[14] UC Davis-Caltrans Air Quality Project. (August 18, 2004). *Transportation Control Measures: Guidance for Conformity and State Implementation Plan Development*.
[15] Eisenger, D. and D. Niemeier. (November 2003). *Transportation Control Measures: Federal Requirements and SIP Development Considerations Poster***.** Prepared for the Transportation Research Board's Annual Meeting, 2004.

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, EPA issued a memorandum entitled "Guidance on the Reasonably Available Control Measures Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas."[16] In this memorandum, 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 that 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 C. 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.

Conclusion

CAA Section 172(c)(1) requires SIPs to provide for the implementation of all RACM as "expeditiously as practicable." 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.

SCAG and the local transportation agencies have in place a comprehensive, formal process for identifying, evaluating, and selecting TCMs. The regular RTP, RTIP, 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.

[16] Seitz, John S. (December 14, 2000). *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

ATTACHMENT A

2007 AQMP Transportation Control Measures (TCMs)

HOV Improvements - New HOV Lanes, Extensions, Additions To Existing Facilities			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CALTRANS	1178A	IN LOS ANGELES AND CULVER CITY FROM ROUTE 90 TO ROUTE 10 - HOV LANES (SB 5+0 TO 5+1; NB 5+0 TO 5+1 HOV) (2206LK CFP) OBLIGATED 6207 (034)	2008
CALTRANS	LA000357	FROM ROUTE 170 TO ROUTE 118 HOV LANES (10 TO 12 LANES) (CFP 345) (2001 CFP 8339; CFP2197). (EA# 121901, PPNO 0158K)	2010
CALTRANS	LA000358	FROM ROUTE 134 TO ROUTE 170 HOV LANES (8 TO 10 LANES) (CFP 346)(2001 CFP 8355). (EA# 121801, PPNO 0142F)	2010
CALTRANS	LA000359	IN EL MONTE AND BALDWIN PARK FROM BALDWIN AVE TO ROUTE 605 HOV LANES (8+0 TO 8+2) AND TOS PROJECTS. (EA# 10695, 22350, 22340 PPNO 0295M, PPNO 2969,PPNO 2968)	2006
CALTRANS	LA000548	FROM PUENTE TO CITRUS HOV LANES FROM 8 TO 10 LANES (C-ISTEA 77720) (PE ONLY) (EA# 117080, PPNO# 0309N)	2015
CALTRANS	LA01342	RT 10 FROM RT 605 TO PUENTE AVE HOV LANES (8+0 TO 8+2) (EA# 117070, PPNO 0306H)	2011
CALTRANS	LA01344	RT 5 FROM RT 118 TO RT 14 FROM 10 TO 12 LANES HOV LANES. EA# 122001, PPNO 0162P. GARVEE project	2010
CALTRANS	LA0B951	ROUTE 10 TO ROUTE 60 - EXPRESSWAY TO FREEWAY CONVERSION - ADD 1 HOV LANE AND 1 MIXED FLOW LANE . (2001 CFP 8349, TCRP #50) (EA# 210600, PPNO 2741)	2012
CALTRANS	LA0C8344	EXTENSION OF N/B I-405 HOV LANE-TO EXTEND THE HOV LANE ON N/B I-405 FROM SOUTH OF VENTURA BL TO SO. BURBANK BLVD WHERE IT WILL JOIN THE EXISTING HOV LANE. (EA# 199620, PPNO# 2788).	2008
CALTRANS	LA0D73	LA MIRADA, NORWALK & SANTA FE SPRINGS-ORANGE CO LINE TO RTE 605 JUNCTION. WIDEN FOR HOV & MIXED FLOW LNS, RECONSTRUCT VALLEY VIEW (EA 2159A0, PPNO 2808).	2016
CALTRANS	LA195900	RTE. 405 - WATERFORD AVE. TO RTE 10 - AUX LANE: LOS ANGELES - WATERFORD AV. TO RTE 10 - CONSTRUCT S/B AUX LANE & S/B HOV LANE (2001 CFP 8354) (EA# 195900 ,PPNO 2333). GARVEE 12/03	2009
CALTRANS	LA963724	IN LA VERNE AND CLAREMONT, FROM FOOTHILL BLVD TO SAN BERN COUNTY LINE, CONSTRUCT 8-LN FWY INCLU 2 HOV LNS	2009
CALTRANS	LA996137	RTE. 60 HOV LNS. FROM RTE. 605 TO BREA CANYON RD. -- CONSTRUCT ONE HOV LANE IN EACH DIRECTION) (CFP: 358, 4262, 6137=67,150+IIP: 5,100) (EA#129410, 129421, PPNO 0482R,0482RA)	2008
CALTRANS	LA996138	RTE.5 HOV LNS. FROM FLORENCE AVE TO RTE.19 - ADD ONE LANE IN EACH DIRECTION	2016
CALTRANS	ORA000195	ON SR-22 (I-405 TO SR55) ADD 2 HOV LANES/1 EA DIR (FRM 0 - 2); & 2 AUX LANES/1 EA DIR (FRM 0- 2) (I-5 TO BEACH) & OPERATING IMPROVMENTS	2007

2007 AQMP TCM Projects (from 2006 RTIP)

HOV Improvements - New HOV Lanes, With New Facility Projects			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
ANAHEIM	ORA000100	GENE AUTRY WAY WEST@ I-5 (I-5 HOV TRANSITWAY TO HASTER) ADD OVERCROSSING ON I-5 (S)/MANCHESTER AND EXTEND GENE AUTRY WAY WEST FROM I-5 TO HARBOR.	2009
CALTRANS	10167	I-5 FROM SR-91 TO LA COUNTY LINE IN BUENA PARK - ADD 1 MIXED FLOW LN AND 1 HOV LN IN EACH DIRECTION. FROM 6 - 0 TO 8 - 2 LANES.	2008
CALTRANS	354801	JCT RTE 15 TO VALLEY WAY - ADD 1 HOV LN AND 1 M/ F LN IN EA. DIR. INCLUDING OPERATIONAL STRIPING (IN SBD CNTY 9.05 - 9.95 & AT THE EAST END) ALSO WIDEN 5 UC'S & 1 OH	2008
CALTRANS	0121D	ON I-215/SR91/SR60, RIV I215 COR IMPROV PROJ - FROM 60/91/215 JCT TO 60/215 SPLIT - WIDEN 6 TO 8 LNS, INCLUDING MAINLINE/IC IMPROVS, ADD HOV, AUX, & SB TRUCK CLIMB LN (EA: 3348U1)	2009
GARDEN GROVE	ORA981104	RECONSTRUCT HARBOR BLVD INTERCHANGE. 4 LANES EACH DIRECTION. (1/4 MILE BEFORE AND AFTER SR-22 RAMPS) 2 HOV LNES(1 E/B & 1 W/B) AND PROPOSED SR-22 HOV LANES.	2007
MORENO VALLEY	32300	AT SR60/NASON ST IC - MODIFY/RECONSTRUCT IC & NASON ST FROM ELDER TO FIR: REALIGN EB, WB EXIT PLUS EB & WB ENTRY RAMPS, ADD EB & WB RAMP HOV LNS, & ADD AUX LANES (EA: 32300)	2007
VARIOUS	713	I-215 CORRIDOR NORTH - IN SAN BERNARDINO, ON I-215 FROM RTE 10 TO RTE 30- ADD 2 HOV LANES 1 LANE IN EA. DIR. AND OPERATIONAL IMPROVEMENTS	2010
VARIOUS	20620	UPLAND TO SAN BERNARDINO FROM LOS ANGELES COUNTY LINE TO ROUTE 215 - 8 LANE FREEWAY INCLUDING 2 HOV LANES (6+2) - 210 CORRIDOR PROJECT W/AUX LANES THROUGOUT SEGMENT 9-11	2009

HOV Improvements - HOV Bypasses, Connectors, and New Interchange with Ramp Meters			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CALTRANS	12570	RTE. 57/60 HOV CONNECTOR INDUSTRY FROM OLD BREA CANYON ROAD TO GRAND AVENUE - HOV DIRECT CONNECTORS AND COLLECTOR ROAD (BOTH DIRECTIONS) (EA# 12570, PPNO# 0499Q)	2007
CALTRANS	LA996134	RTE. 5/14 INTERCHANGE & HOV LNS ON RTE 14 - CONSTRUCT 2 ELEVATED LANES - HOV CONNECTOR (DIRECT CONNECTORS) (EA# 16800)(2001 CFP 8343) (PPNO 0168M)	2010
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA000193	SR-22/I-405 AND I-405/I-605 INTERCHANGES. DESIGN HOV TO HOV LANE CONNECTORS	2015
ORANGE, CITY OF	ORA990443	SR-22 AND CITY DRIVE INTERCHANGE IMPROVEMENTS. RECONFIGURE FREEWAY INTERCHANGE AT SR-22 FROM SR-57 TO LEWIS STREET -- FROM 6/0 TO 6/2 LANES (ADDING 2 HOV LANES)	2007
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV010212	ON SR91 - ADAMS TO 60/215 IC: ADD HOV LNS, AUX LNS (MADISON-CENTRAL), BRIDGE WIDENING & REPLACEMENTS, EB/WB BRAIDED RAMPS, IC MOD/RECONSTRUCT + SOUND/RETAINING WALLS	2013

High Occupancy Toll (HOT) Lanes and Pricing Alternatives			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
TCA	10254	SJHC, 15 MI TOLL RD BETWEEN I-5 IN SAN JUAN CAPISTRANO & RTE 73 IN IRVINE, EXISTING 3/M/F EA.DIR.1 ADD'L M/F EA DIR, PLUS CLIMBING & AUX LNS AS REQ, BY 2015 PER SCAG/TCA MOU 4/5/01. [2008 COMPLETION DATE FOR PHASE 1 ONLY]	2008
TCA	ORA050	ETC (RTE 241/261/133) TOLL RD (RTE 91TO I-5/JAMBOREE) EXISTING 2 M/F EA.DIR, 2 ADD'L M/F IN EA. DIR, PLUS CLIMB AND AUX LNS AS REQ, BY 2015 PER SCAG/TCA MOU 4/05/01. [2010 COMPLETION DATE FOR PHASE 1 ONLY]	2010
TCA	ORA051	(FTC-N) TOLL RD (OSO PKWY TO ETC) (13MI) EXISTING 2 MF IN EA. DIR; 3 MF EA. DIR BY 2010; 4 MF EA. DIR BY 2015, PLS CLMBNG & AUX LANS PER SCAG/TCA MOU 4/05/01. [2010 COMPLETION DATE FOR PHASE 1 ONLY]	2010
TCA	ORA052	(FTC-S) TOLL RD (I-5 TO OSO PKWY) (15MI) 2 MF EA. DIR BY 2010; AND 1 ADDITIONAL M/F EA. DIR. PLS CLMBNG & AUX LANES AS REQ BY 2015 PER SCAG/TCA MOU 4/05/01. [2010 COMPLETION DATE FOR PHASE 1 ONLY]	2010

Transit - Rail Track, Capacity Expansion of Existing Lines			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CALTRANS	LA963519	ADD 3 MILES OF TRIPLE TRACK AT BANDINI, MP 148.5 & 151.7 BETWEEN FULLERTON & LAUS (2002 IIP)	2007
LAC MTA	LA29212XY	METRO RAIL GOLD LINE EXTENSION- PASADENA TO MONTCLAIR 24- MILE, 12-STATION LRT EXTENSION. SAFETEA-LU # 285 LEAD AGENCY WILL CHANGE TO METRO GOLD LINE	2014

Transit - Rail Track, New Rolling Stock Acquisition			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
LAC MTA	LA990305	LIGHT RAIL TRANSIT FLEET- 50 NEW RAIL CAR.PPNO 3225.	2010
SOUTHERN CALIF REGIONAL RAIL AUTHORITY	RIV010214	PURCHASE/REHAB ROLLING STOCK - RIVERSIDE COUNTY SHARE (13 CARS IN FY02/03 AND 18 CARS IN FY 03/04)	2008
SOUTHERN CALIF REGIONAL RAIL AUTHORITY	RIV011242	PURCHASE EXPANSION ROLLING STOCK (2 CAB CARS AND 3 LOCOMOTIVES) FOR METROLINK IEOC AND RIVERSIDE/FULLERTON/LA LINES (EA: RIVFUL, PPNO: 0079E)	2009
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY	LA963758	METROLINK ROLLING STOCK-PHASE II (SCRRA). PURCHASE ADD'L METROLINK ROLLING STOCK TO ALLOW SYST EXPANSION(4 LOCOMOTIVES AND UPTO 31 CARS (JOINTLY FUNDED LA, ORA,RIV,SBD) LA0C8231	2009

Transit - Express Busways, Bus Rapid Transit, and Dedicated Bus Lanes			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
LAC MTA	LA29202U1	SAN FERNANDO VALLEY E/W BRT (FROM TERMINUS OF METRO RED LINE IN NO HOLLYWOOD TO WARNER CTR)14-MILE EXCLUSIVE BUS LANES AT FORMER RAIL RD ROW (PPNO 3333 AB3090REP) SAFETEA-LU # 326	2010
LAC MTA	LA29202U3	SAN FERNANDO VALLEY NORTH/SOUTH BRT EXTENSION PHASE I: METRO RAPID SERVICE ALONG RESEDA BLVD. AND SEPULVEDA BLVD.	2009
LAC MTA	LA29202U4	SAN FERNANDO VALLEY NORTH/ SOUTH BRT EXTENSION PHASE II: BUS SPEED IMPROVEMENTS ALONG METRO RAPID CORRIDORS AND EXPANSION OF EXISTING PARK & RIDE FACILITY.	2010
LAC MTA	LA29202U5	SAN FERNANDO VALLEY NORTH/ SOUTH BRT EXTENSION PHASE III: STATION ACCESSIBILITY AND PEDESTRIAN ENHANCEMENTS ON RESEDA BLVD., SEPULVEDA BLVD., AND LANKERSHIM BLVD.	2010
LAC MTA	LA29202U6	SAN FERNANDO VALLEY NORTH/ SOUTH BRT EXTENSION PHASE IV: COMPLETION OF A NORTHBOUND BUS ONLY LANE ON A PORTION OF SEPULVEDA BLVD. AND OTHER IMPROVEMENTS.	2010
LAC MTA	LA29202V	EASTSIDE TRANSIT CORRIDOR - UNION STATION TO ATLANTIC VIA 1ST ST. TO LORENA, THEN 3RD ST. VIA 3RD/BEVERLY BLVD. TO ATLANTIC (EASTSIDE LRT PPNO 3358)	2010
LAC MTA	LA29202W	MID -CITY TRANSIT CORRIDOR: WILSHIRE BLVD. FROM VERMONT TO SANTA MONICA DOWNTOWN- MID-CITY WILSHIRE BRT INCL. DIV. 10 EXPANSION	2012
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA110501	BUS RAPID TRANIST - 28MI FIXED BRT FRM BREA MALL TO IRVINE TRANS CNTR. INCLUDES STRUCTURES, ROLLING STOCK, AND FEEDER SVC & IBC SHUTTLE- CNG SHUTTLES FROM JWA TO IBC.	2010
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120325	OCTA - INTER COUNTY EXPRESS BUS SERVICE - VEHICLE CAPITAL LEASE	2010
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120531	BUS RAPID TRANIST (HARBOR BOULEVARD BRT) - 19MILE FIXED RT BRT BETWEEN FULLERTON AND COSTA MESA; INCLUDES STRUCTURES AND ROLLING STOCK	2011
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120532	BUS RAPID TRANIST (WESTMINSTER/17TH BRT) - 22MILE FIXED RT BRT BETWEEN SANTA ANA AND LONG BEACH; INCLUDES STRUCTURES AND ROLLING STOCK	2011

Transit - Buses, Fleet Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
BURBANK	LA0D25	PROCUREMENT OF (3) ALTERNATIVE FUEL TRANSIT VEHICLES	2005
CARSON, CITY OF	LAE0108	PURCHASE TWO TRIPPER BUSES TO RELIEVE OVERCROWDING DURING PEAK PERIODS. ROUTE G AND D, BLUELINE STATION AT DEL AMO BLVD/I-710 TO SOUTH BAY PAVILION MALL, DEL AMO BLVD	2010
CARSON, CITY OF	LAE0132	PURCHASE OF ONE BUS.REPLACEMENT OF A 1983 CROWN DIESEL FUEL SCHOOL BUS WITH THE PURCHASE OF A NEW CNG-POWERED SCHOOL BUS. BUS WILL REDUCE EMISSIONS & CONTINUE TO PROVIDE TRANSPORTA	2011
CITY OF LOS ANGELES	LA0C8241	PICO UNION/ECHO PARK DASH VEHICLE PROCUREMENT. PURCHASE (3) LOW-FLOOR, PROPANE-POWERED 30' BUSES FOR THE PICO/UNION ECHO PARK SHUTTLE SERVICE.	2010
GLENDALE	LAE0001A	PURCHASE OF CNG BUSES FOR GLENDALE BEELINE TRANSIT SYSTEM	2010
LA GARDENA	LA0D340	PURCHASE FIVE (5) 40 FT. ALTERNATIVE FUEL BUSES FOR SERVICE EXPANSION	2010
LA MIRADA	LA0D349	PURCHASE EXPANSION BUSES WITH ALTERNATE FUEL (HYBRID/ELECTRIC): FY 06=2	2008
LAC MTA	LA01B120	EXPANSION OF DIVISION 1 TO ADD ADDITIONAL CAPACITY OF APPROX 67 BUSES AND ADDITIONAL PARKING SPACE OF EMPLOYEES. ACQUISITION OF A VACANT PARCEL SOUTH OF DIV 1	2007
LAC MTA	LA963542	ACQUISTION REVENUE VEHICLES - 2,513 CLEAN FUEL BUSES: LEASED VEH, FY02 (370) FY03 (30 HC) + FY04 (70 HC) + (200 ARTICS); FY05-FY10 TOTAL OF 1000 BUSES.	2012
MONTEBELLO	LA0D287	PURCHASE OF 29 REPLACEMENT BUSES. GASOLINE-ELECTRIC HYBRID LOW FLOOR 40' COACH. PURCHASE OF 6 EXPANSION BUSES. GASOLINE=ELECTRIC HYBRID LOW FLOOR 40' COACH	2009
ORANGE COUNTY TRANSIT DISTRICT (OCTD)	ORA041501	PURCHASE (52)STANDARD 30FT EXPANSION BUSES - ALTERNATIVE FUEL - (12) IN FY05-06, (5) IN FY06-07, (2) IN FY07-08, (5) IN FY08-09, (27) IN FY09-10, AND (1) IN FY10-11	2010
ORANGE COUNTY TRANSIT DISTRICT (OCTD)	ORA55241	PURCHASE (79) STANDARD 40 FT EXPAN ALT FUEL BUSSES - (28) IN FY04/05, (21) IN FY05/06, (14) IN FY06/07, (9) IN FY08/09, (7) IN FY09/10	2010
PASADENA	LA0D99	PURCHASE 2 EXPANSION LOW-FLOOR, HANDICAPPED ACCESSIBLE, ALTERNATIVE FUEL TRANSIT BUSES.	2006
SAN FERNANDO	LAE0127	PROCUREMENT OF (3) CNG TRANSIT VEHICLES AND RELATED INFRASTRCTURE EQUIPMENT FOR FIXED ROUTE PUBLIC TRANSPORTATION.	2010
SANTA CLARITA	LA0C8371	SANTA CLARITA TRANSIT EXPANSION BUSES; WILL ALLOW PHASE 1 OF 5 YEAR MASTER PLAN TO BE IMPLEMENTED WITH SEVEN LOCAL BUSES AND FOUR COMMUTER BUSES.	2008
SANTA CLARITA	LA0F018	PURCHASE (2) EXPANSION BUSES FOR ROUTE 8 TO THE SAN FERNANDO VALLEY	2009

2007 AQMP TCM Projects (from 2006 RTIP)

Transit - Buses, Fleet Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
SANTA CLARITA	LAOD363	SANTA CLARITA TRANSIT PHASE 2 - EXPANSION BUSES - (9) LOCAL TRANSIT CNG BUSES & (4) OVER THE ROAD COMMUTER BUSES.	2009
SIERRA MADRE	LA0C8372	EXPANSION OF SIERRA MADRE BUS ROUTE. PURCHASE OF 3 CNG VANS TO EXPAND SIERRA MADRE ROUNDABOUT SYSTEM.	2007
VARIOUS AGENCIES	ORA030302	(9) EXPANSION MEDIUM BUSES (TYPE II) AND (11) MOBILE RADIOS - ORANGE COUNTY ARC - PROVIDE SERVICES TO SENIORS AND DISABLED PERSONS.	2006

Transit - Shuttles and Paratransit Vehicles, Fleet Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
ACCESS SERVICES, INC.	LA900520	PURCHASE OF ADDITIONAL 386 VEHICLES FROM FY06 TO FY09. 100 VEHICLES IN FY06, 114 VEHICLES IN FY07; 110 IN FY08 AND 62 IN FY09.	2009
ARCADIA	LA990712	NEW & EXPANDED SHUTTLE SERVICE THRU DOWNTOWN ARCADIA CONNECTING HOTELS & BUSINESSES TO SANTA ANITA RACE TRAK & FASHION MALL (HUNTINGTON ST) & PROPOSED TRANSIT STATION	2010
BALDWIN PARK	LAE0076	CONSTRUCT ADD'L VEHICLE PARKING (200 TO 400 SPACES), BICYCLE PARKING LOT AND PEDESTRIAN REST AREA AT THE TRANSIT CENTER	2010
CARSON, CITY OF	LAE0407	PURCHASE ONE TROLLEY BUS VEHICLE FOR EXISTING SERVICE ALONG CARSON ST. BETWEEN THE HARBOR TRANSIT WAY STATION AND THE CARSON CIVIC CENTER AT AVALON BLVD	2010
CITY OF LOS ANGELES	LAE0566	EXPANSION OF LAX REMOTE TERMINAL FLYAWAY SHUTTLE BUS SYSTEM. LAWA AIRPORTS WILL OPERATE BUSES BETWEEN THESE PARK-N-RIDE LOTS AND L.A. INTERNATIONAL AIRPORT. SITES BEING CONSIDERED	2011
CULVER CITY MUNI BUS LINES	LA0B400	PROCUREMENT OF FIVE (5) 40' CNG EXPANSION BUSES/420K PER BUS	2008
LAC MTA	LA0B7023	GET ABOUT FLEET IMPROVE (POMONA VAL TRANS. AUTHORITY)-PURCHASE 18, 21 PASSENGER VEHIC TO INCR CAPACITY OF SUBREG PARATRANSIT SYS	2008
LAC MTA	LA996044	VEH ACQ FOR EST L.A. SHUTTLE PURCH 4 VEH'S TO REMEDY EXISTING OVERCROWDED CONDITIONS	2006
OMNITRANS	2002171	(1) EXPANSION PARATRANSIT VAN	2003
ORANGE COUNTY TRANSIT DISTRICT (OCTD)	ORA020119	PURCHASE PARATRANSIT VEHICLES EXPAN (142) - (66) IN FY04/05, (21) IN FY05/06, (14) IN FY06/07, (13) IN FY07/08, (14) IN FY08/09, (14) IN FY09/10	2010
REDONDO BEACH	LAOD299	ACQUISITION OF (6) ALTER FUEL TRANSIT/PARATRANSIT VEHICLES NOT TO EXCEED 35' SAFETEA-LU TRANSIT #251	2010
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV020902	IN WEST RIV CO FOR EXCEED, A DIVISION OF VALLEY RESOURCE CENTER - PURCHASE 1 EXPANSION 20' MODIFIED VAN, 1 EXPANSION 22' MEDIUM BUS, AND 2 RADIOS - SECTION 5310 FY 02/03 CYCLE	2008
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV030902	IN WESTERN RIVERSIDE COUNTY FOR EXCEED, A DIVISION OF VALLEY RESOURCE CENTER - PURCHASE 2 EXPANSION SMALL BUSES AND 1 EXPANSION MINIVAN (5310 FY 03/04 CYCLE)	2008
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV051006	IN WESTERN RIVERSIDE COUNTY FOR CARE CONNEXXUS INC.: PURCHASE 1 EXPANSION LARGE BUS (APPROX 16 PASSENGERS, GAS/DIESEL) W/ LIFT AND TIEDOWNS (5310 FY 05/06 CYCLE)	2009
RIVERSIDE TRANSIT AGENCY	RIV041009	IN WESTERN RIVERSIDE COUNTY FOR RTA - DEBT FINANCING (FY 04/05 PORTION) FOR 57 TRANSIT COACHES, 25 REPLACEMENT, 32 EXPANSION (FY 05 5307)	2006
RIVERSIDE TRANSIT AGENCY	RIV050538	IN WESTERN RIVERSIDE COUNTY FOR RTA - DEBT FINANCING (FY 05/06 PORTION) FOR 57 TRANIST COACHES, 25 REPLACEMENT, 32 EXPANSION (FY 06 5307, UZA: RIV-SAN)	2007

Transit - Shuttles and Paratransit Vehicles, Fleet Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
RIVERSIDE TRANSIT AGENCY	RIV051005	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE 10 EXPANSION MINIVANS (APPROX 5 PASSENGERS EACH, GAS/DIESEL) (5310 FY 05/06 CYCLE)	2009
SAN FERNANDO	LA0D284	PROCUREMENT OF TWO EXPANSION CNG TRANSIT VEHICLES AND RELATED INFRASTRUCTURE EQUIPMENT FOR FIXED ROUTE PUBLIC TRANSPORTATION WITHIN THE CITY OF SAN FERNANDO.	2005
SAN FERNANDO	LA0D314	PROCURE 2 CNG EXPANSION TRANSIT VEHICLES WHICH WILL PROVIDE FIXED ROUTE PUBLIC TRANSPORTATION IN SAN FERNANDO.	2005
VARIOUS AGENCIES	ORA030301	(1) EXPANSION MINIVAN - A.S. FOUNDATION - PROVIDE SERVICES TO SENIORS AND DISABLED PERSONS.	2005

System Management – Railroad Consolidation Programs			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
LOS ANGELES COUNTY	LA990353	ALAMEDA CORRIDOR EAST - NOGALES ST. GRADE SEP (T21-491, SGVCG)	2008
SAN GABRIEL VALLEY COG	LA0C56	ACE/GATEWAY CITIES-CONSTRUCT GRADE SEPARATION AT VALLEY VIEW AVENUE IN SANTA FE SPRINGS (PART OF ALAMEDA CORRIDOR EAST PROJECT)	2008
SAN GABRIEL VALLEY COG	LA0C57	ACE/GATEWAY CITIES-CONSTRUCT GRADE SEPARATION AT PASSONS BLVD IN PICO RIVERA (AND MODIFY PROFILE OF SERAPIS AVENUE)(PART OF ALAMEDA CORRIDOR EAST PROJECT).	2010
SAN GABRIEL VALLEY COG	LA990359	GRADE CROSSINGS/SAFETY IMPRVMT & GRADE SEP. ALONG 35- MILE FREIGHT RAIL CORIDOR THRGH SAN GABRIEL VALLEY - EAST L.A. TO POMONA ALONG UPRR ALHAMBRA &L.A. SUBDIVISIONS - ITS 2318	2010
ALAMEDA TRANSPORTATION CORRIDOR AGENCY	LA0D45	ALAMEDA CORRIDOR TRUCK EXPRESSWAY. ELEVATED 4-LANE EXPRESSWAY BETWEEN COMMODORE HELM BRIDGE AND ALAMEDA STREET (SR-47).	2011

Intermodal Transfer Facilities - Rail Stations, New			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
BUENA PARK	ORA55286	COMMUTER RAIL STATION (DALE STREET AND MALVERN) IN BUENA PARK. CONSTRUCT NEW RAIL STATION. 308 PARKING SPACES.	2006

Intermodal Transfer Facilities - Rail Stations, Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
BALDWIN PARK	LA0D281	DESIGN AND CONSTRUCT PARKING IMPROVEMENTS AT AND ADJACENT TO THE CITY'S EXISTING METROLINK STATION	2006
CITY OF LOS ANGELES	LA0C8173	NORTHRIDGE METROLINK STN PARKING IMPRVMENT. CONSTRUCT ADDT'L 100 PRKING SPCS & RECONFIGURE SOUTHERN PRTION OF EXISTING PRKING LOT TO YIELD AN ADDT'L 40 NET PRKING SPCES TOTAL 400 SPC.	2007
FULLERTON	ORA020113	FULLERTON TRAIN STATION - PARKING STRUCTURE, PHASE I AND II. TOTAL OF 670 SPACES.	2008
LAC MTA	LA0C10	MID-CITY/EXPOSITION CORRIDOR LIGHT RAIL TRANSIT PROJECT PHASE I TO VENICE-ROBERTSON STATION	2010
RIALTO	200450	RIALTO METROLINK STATION - INCREASE PARKING SPACES FROM 225-775	2007

Intermodal Transfer Facilities - Park & Ride Lots, New			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
FOOTHILL TRANSIT ZONE	LA0B311	PARK AND RIDE FACILITY TRANSIT ORIENTED NEIGHBORHOOD PROGRAM	2010
HEMET	RIV990708	CONSTRUCT TRANSPORTATION/ TRANSIT CENTER/PARK-N-RIDE LOT ON CORNER OF HARVARD AND LATHAM AVE, APP 100 SPACES	2006
LAC MTA	LAE0276	MUSEUM OF LATIN AMERICAN ART, LONG BEACH TO BUILD INTERMODAL PARK AND RIDE FACILITY	2010
LAC MTA	LAE0364	CONSTRUCT INTERMODAL PARK AND RIDE FACILITY AT SANTA MONICA COLLEGE CAMPUS ON SOUTH BUNDY DRIVE NEAR AIRPORT AVENUE	2010
LOS ANGELES REDEVELOPMENT AGENCY	LA0C53	'HOLLYWOOD INTERMODAL TRANSPORTATION AND PUBLIC PARKING CENTER ON HAWTHORNE AVE. BETWEEN HIGHLAND AVENUE AND NORTH ORANGE DRIVE.	2007
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV051201	IN CORONA - IMPLEMENT NEW 60 SPACE PARK-AND-RIDE LOT (via annual lease agreement) AT FAITH BIBLE CHURCH AT 1114 W. ONTARIO AVE (TCM substitution for Corona's 3 expansion buses)	2009
TEMECULA	RIV62029	AT HWY 79 SO AND LA PAZ, ACQUIRE LAND, DESIGN AND CONSTRUCT PARK AND RIDE - 250 SPACES (FY 05 HR4818 EARMARK)	2009

Intermodal Transfer Facilities - Park & Ride Lots, Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CLAREMONT	LA0D103	THE CITY AND THE REDEVELOPMENT AGENCY WILL EXPAND ON AN EXISTING PARKING FACILITY (500 PARKING SPACE) FOR ADDITIONAL USE BY TRANSIT PATRONS.	2006

Intermodal Transfer Facilities - Bus Stations & Transfer Facilities, New			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CALABASAS	LAOD322	TRANSIT FACILITY TO INCLUDE BUS MAINTENANCE STRUCTURE, BUS STORAGE, TRANSIT HUB, PARK-N-RIDE, TRAIL HEAD, AND A VISITOR SERVING KIOSK	
CARSON	LA0C8219	SOUTH BAY PAVILION REGIONAL TRANSIT CTR. CONSTRUCTION OF A TRANSIT CTR AT THE SOUTH BAY PAVILION SHOPPING CTR TO BE SERVED BY ALL 8 CARSON CIRCUIT RTES & MTA LINES #205 & #446-447	2010
CITY OF LOS ANGELES	LA0C8319	TAXI/SHUTTLE STANDS AT METRO RED LINE STA AT N HLWD & UNIVERSAL CITY AUTHORIZED TAXI STANDS AT TWO METRO RED LINE STATIONS (UNIVERSAL CITY ON LANKERSHIM AND N. HLWD ON CHANDLER.	2006
CITY OF LOS ANGELES	LA0C8380	CHINATOWN/COLLEGE STREET GOLD LINE STATION - INTERMODAL TRANS. CENTER ENHANCE MENT (PEDESTRIAN WALKWAY BRIDGE, BUS STATION, AND A BIKE STATION)	2010
CITY OF LOS ANGELES	LA962148	WESTLAKE COMMUNITY BASED INTERCEPT INTERMODAL FACILITY (95 CALL, CAT 2) [CALL #2446]	2007
CITY OF LOS ANGELES	LAE0567	LAX INTERMODAL TRANSPORTATION CENTER RAIL & BUS FACILITIES AT THE NORTHEAST CORNER OF AVIATION BLVD AND IMPERIAL HWY. INCLUDES PEDESTRIAN CONNECTION TO THE EXISTING GREEN LINE .	2010
FOOTHILL TRANSIT ZONE	LA963762	MONROVIA TIMED TRANSFER CENTER	2006
LAC MTA	LA0C8364	NORTH LA COUNTY NON-ADVERTISING BUS STOP SHELTERS. INSTALLATION OF BUS SHELTERS WITH SEATING AT BUS STOPS WITH GREATEST # OF DAILY BOARDING IN NORTH LOS ANGELES COUNTY. PPNO 3229.	2010
LAC MTA	LA974181	LAC+USC MEDICAL CENTER BUS TRANSIT STATION FACILITY WILL HAVE 4 BUS BAYS AND 4 LAYOVER BAYS BUS STOP IMPROVEMENT PRJ	2007
MONROVIA	LAE0039	TRANSIT VILLAGE - PROVIDE A TRANS. FACILITY FOR SATELLITE PARKING FOR SIERRA MADRE VILLA GOLD LINE STA, P-N-R FOR COMMUTERS, A FOOTHILL TRANSIT STORE.	2010
OMNITRANS	981118	BUS SYSTEM - PASSENGER FACILITIES: DESIGN AND BUILDING OF ONTARIO TRANSCENTER	2008
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA1100501	BUS RAPID TRANSIT - 28MI FIXED BRT FRM BREA MALL TO IRVINE TRANS CNTR. INCLUDES STRUCTURES, ROLLING STOCK, AND FEEDER SVC & IBC SHUTTLE- CNG SHUTTLES FROM JWA TO IBC.	2010
RIVERSIDE TRANSIT AGENCY	RIV990902	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF PERRIS - CONSTRUCT NEW MULTIMODAL TRANSIT FACILITY (BUS & RAIL) AT 4TH AND D STREETS	2007

Intermodal Transfer Facilities - Bus Stations & Transfer Facilities, Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
BURBANK	LAE0396	UPGRADE EXIST - REG,L TRANSIT & LAYOVER FACILITY ADJACENT TO THE BURBANK-GLENDALE-PASADENA AIRPORT. WILL FACILITATE TRANSFER OF PASSENGERS TO & FROM MANY GROUND TRANS. (PE ONLY)	2011
CITY OF LOS ANGELES	LA0C8242	BUS STOP IMPROVEMENTS ON SAN FERNANDO ROAD & TC LIGHTING; ENHANCE PASSENGER FACILITIES AT THREE BUS STOPS WITH GREATEST NUMBER OF DAILY BOARDINGS ON EAST SIDE OF SAN FERNANDO ROAD.	2010
CITY OF LOS ANGELES	LA974165	MACARTHUR PARK STATION IMPROVEMENTS INCLUDE DESIGN AND CONSTRUCTION OF A PLAZA TO ACCOMMODATE PUBLIC ACCESS (PEDESTRIAN ENTRANCES, WALKWAYS, BICYCLE FACILITIES) PPNO# 3417	2008
CULVER CITY MUNI BUS LINES	LA0C8382	SEPULVEDA BLVD BUS STOP IMPROVEMENT PROGRAM. BUS STOP AMENITIES INC LIGHTING SIGNAGE, LANDSCAPING, SHELTERS, SEATING, LANDINGS AND TRASH RECEPTACLES.	2010
FOOTHILL TRANSIT ZONE	LA0C8362	EL MONTE STATION IMPROVEMENT PROJECT AND TRANSIT STORE EQUIPMENT	2007
FOOTHILL TRANSIT ZONE	LA963526	BUS STOP ENHANCEMENT AND SCHEDULE CAROUSELS	2008
FOOTHILL TRANSIT ZONE	LA9811007	AVL SYSTEM, ARRIVAL SIGNS, FUEL MGMT. SYSTEM (SMART BUS PROJECT)	2007
LAC MTA	LA0C8413	METRO RAPID BUS STATIONS-PHASE II: INCLUDES COMMUNICATIONS & EQUIPMENT	2009
LONG BEACH PUBLIC TRANSPORTATION CO.	LA0C8383	LONG BEACH TRANSIT: BUS STOP IMPROVEMENT PROJ. ENHANCE 9 OF RAIL STATION FEEDER BUS STOPS TO EASE TRANSFERS, MAKE PUBLIC TRANSIT MORE AESTHETICALLY PLEASING & SAFER, INC RIDERSHIP.	2010
LONG BEACH PUBLIC TRANSPORTATION CO.	LA973029	BUS STOP AMENITIES	2006
MONTEBELLO	LA55201	CONTINUING PROJECT - BUS STOP IMPROVEMENTS ,AMENITIES ,SHELTERS ,ETC	2010
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA000104	TRANSITWAY IMPROVEMENTS AT IRVINE TRANSPORTATION CENTER; BUILD 900 SPACE PARKING STRUCTURE, INCLUDING ENVIRONMENTAL, DESIGN AND CONSTRUCTION.	2007
PASADENA	LA974129	PASADENA GOLD LINE COMMUNITY LINKAGES PEDESTRIAN IMPROVEMENTS TO TWO PLANNED METRO PASADENA GOLD LINE STATIONS WITHIN THE CITY (PPNO# 3422)	2006
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV520109	RECONSTRUCT & UPGRADE SAN JACINTO BRANCH LINE FOR RAIL PASSENGER SERVICE (RIVERSIDE TO PERRIS) (PERRIS VALLEY LINE)	2012
RIVERSIDE TRANSIT AGENCY	RIV051008	INSTALL MULTI-JURISDICTIONAL ATIS AT TRANSIT CENTERS & HIGH TRAFFIC CORRIDOR BUS STOPS INCLUDING REAL TIME SCHEDULES, IMPROVED SIGNAGE & LIGHTING (MAGNOLIA CORRIDOR PHASE)	2007

Intermodal Transfer Facilities - Bus Stations & Transfer Facilities, Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
SAN BERNARDINO, CITY OF	20020802	METROLINK ADD'L PARKING STRUCTURE - CONSTRUCT 5 LEVEL PARKING STRUCTURE TO SERVE EXISTING METROLINK STATION AT SANTA FE DEPOT LOCATION	2006
SANTA CLARITA	LA0B7020	ADDITIONAL (150) PARKING AT NEWHALL METROLINK STATION-CONSTRUCT ADEQUATE PARKING AT NEWHALL METROLINK STATION, INCLDE PARK & RIDE, KISS & RIDE & DISBLED -ACCESS SPACES.PPNO 2901	2007
SANTA MONICA	LA57101	BUS FACILITY IMPROVEMENTS	2008
SCRAA/LACMTA/SANBAG	LA29204	LA-SAN BERNARDINO CR (SF UNION STATION-SAN BERNARDINO) CAPACITY IMPROVEMENTS (3037) (JARC $1982). DEMOT21 = 3037	2007

Non-motorized Facilities - Bicycle & Pedestrian Facilities, New			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
BELLFLOWER	LA996275	WEST BRANCH GREENWAY MULTI-MODAL TRANS. CORRIDOR DESIGN AND CONSTRUCT 2.5 MILE CLASS I BIKE PATH ALONG MTA-OWNED SANTA ANA BRANCH ROW INCL. PEDESTRIAN AND LANDSCAPING (3145)	2007
CITY OF LOS ANGELES	LA002738	BIKEWAY/PEDESTRIAN BRIDGE OVER LA R RIVER AT TAYLOR YARD CLASS I (CFP 738, 2077)	2009
LAC MTA	LAE0195	DESIGN AND CONSTRUCT IMPROVED PEDESTRIAN LINKAGES BETWEEN LOS ANGELES PIERCE COLLEGE AND MTA'S RAPID BUS TRANSIT STOPS TO INCLUDE PASSENGER AMENITIES	2010
LAC MTA	LAE0388A	DESIGN AND CONSTRUCT IMPROVED PEDESTRIAN LINKAGES BETWEEN LOS ANGELES MISSION COLLEGE AND PUBLIC TRANSIT SERVICES TO INCLUDE LIGHTING, LANDSCAPIND, AND PASSENGER AMENITIES	2010
SANBAG	200074	LUMP SUM - TRANSPORTATION ENHANCEMENT ACTIVITIES PROJECTS FOR SAN BERNARDINO COUNTY-BIKE/PED PROJECTS	2006
SANBAG	SBD031505	VARIOUS LOCATIONS - LUMP SUMS LTF, ARTICLE 3 BICYCLE/PEDESTRIAN PROJECTS (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127,128, EXEMPT TABLES 2 & 3)	2008
SANTA CLARITA	LA0C8156	SANTA CLARITA REGNL COMUTR TRAIL - I-5 TO FAIRWAYS DRIVE: CNSTRCTN & SOME ACQUISITION OF 1.0 MILES OF CLASS I BIKE PATH & A BRIDGE RESTORATION ADJACENT TO SANTA CLARA.(PPNO 3127).	2007
SANTA MONICA	LA030001	CALIFORNIA INCLINE SIDEHILL VIADUCT BR 53C0543 ADD, INCLUDED INSTATE IN STATE HBRR PROGRAM (0.3 MILE, 1-S, 1-N) SIDEWALK/BIKEWAY WIDENING & SEISMIC (53C0543)	2008
VARIOUS AGENCIES	ORA990906	LUMP SUM. TEA FUNDS FOR BICYCLE AND PEDESTRIAN FACILITY PROJECTS THROUGHOUT ORANGE COUNTY.	2009

Non-motorized Facilities - Bicycle & Pedestrian Facilities, Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
LAC MTA	LA974124	SANTA MONICA BOULEVARD TRANSIT PARKWAY TRANSIT PEDESTRIAN AND BIKEWAY IMPROVEMENTS ALONG SANTA MONICA BLVD IN WEST LOS ANGELES, SPANS 2.5	2007
LONG BEACH	LA0C8163	BIKEWAY AND PEDESTRIAN IMPROVEMENTS. 1.2 MILE CLASS I BIKE/PED PATH FROM WALNUT AVE TO WILLOW ST AT THE BLUE LINE STATION. (PPNO# 3408)	2006
LOS ANGELES COUNTY	LA996289	SOUTH BAY BIKE TRAIL PED. ACCESS RAMPS/SIDEWALKS - DESIGN OF RAMPS, WALKWAYS TO PROVIDE ACCESS TO THE STH. BAY TRAIL AT DOCKWEILER STATE BEACH (2006 STIP)	2010

Non-motorized Facilities - Bicycle Facilities, New			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CITY OF LOS ANGELES	LA0B7330	SAN FERNANDO RD ROW BIKE PATH PHSE II-CONSTRUCT 2.75 MILES CLASS I FROM FIRST ST TO BRANFORD ST,ON MTA-OWND ROW PARCEL TO SAN FERNANDO RD. LINK CYCLISTS TO NUMEROUS BUS LNE. PPNO 2868	2007
CITY OF LOS ANGELES	LA0C8330	BICYCLE COMMUTER TECHNOLOGY ACCESS, CITY'S WEB PAGE FOR BICYCLE PROGRAM	2006
COLTON	2002164	ON VALLEY BLVD. IN COLTON TO NORTH TO 10TH STREET CONNECTING TO ABANDONED RR CORRIDOR ON WEST SIDE OF COLTON AVE.-CONSTRUCT CLASS I BIKEWAY, LANDSCAPING AND LIGHTING	2007
FONTANA	200431	INLAND PACIFIC ELECTRIC TRAIL - ON OLD SP ABANDONED RR BETWEEN I-15 TO JUNIPER AVE.-CONSTRUCT CLASS 1 BIKE LANE (APPROX. 7 MILES LONG)	2007
LA CANADA-FLINTRIDGE	LA0C8159	LA CANADA FLINTRIDGE EAST/WEST BIKEWAY CORRIDOR. DESIGN AND CONSTRUCTION OF 3.42 MILES OF EAST/WEST DIRECTIONAL CLASS II BIKE LANES IN THE CITY OF LA CANADA FLINTRIDGE.	2007
LAC MTA	LA000274	FROM SEPULVEDA TO MORENO CONSTRUCT DIVIDED PKWY WITH TRANSIT PKWAY IMPROVEMENTS, BIKE LANES & RT. 2/405 INTERCHANGE (94CFP; CAT. 2, 210, 98STIP00027) TEA21-#1531	2007
LAC MTA	LA002633	THOMPSON CREEK BICYCLE TRAIL (93/97 CFP; BIKE PROGRAM) CLASS I (2 MILES)	2005
LAC MTA	LA974083	CHANDLER/BURBANK BIKE PATH-WHITEOAK TO PIERCE COLLEGE A 3.2 MILE CLASS I BIKEWAY ON MTA'S CHANDLER/BURBANK RAIL RIGHT-OF-WAY WILL IMPROVE NON-MOTORIZED ACCESS (COMBINED W/LA974078)	2008
ORANGE, CITY OF	ORA990452	TUSTIN BRANCH RAIL TRAIL (SANTA ANA RIVER TO FAIRHAVEN ST) CONVERT RAILS TO BIKE TRAIL THROUGH VILLA PARK AND ORANGE. CONNECTS 9 MILE TRAIL.	2006
RANCHO CUCAMONGA	20020201	PACIFIC ELECTRIC INLAND EMPIRE TRAIL – PHASE 1 – HAVEN AVENUE TO 1200' EAST OF ETIWANDA AVE (3.4) MILES) CONSTRUCT CLASS 1 BIKE TRAIL & ROW ACQ, ETIWANDA DEPOT	2007
WEST LAKE VILLAGE	LA960142	LINDERO CANYON ROAD FROM AGOURA RD TO JANLOR DR CONSTRUCT BIKE PATH, RESTRIPE STREET, INTERSECTION WIDENING, SIGNAL COORDINATION, RAMP WIDENING (TEA21-#65)	2008

Non-motorized Facilities - Bicycle Facilities, New			
SANTA CLARITA	LA0B7335	SANTA CLARA RIVER REGIONAL TRAIL-DESIGNING OF 7 MILES OF CLASS I BIKE/PED PATH ALONG THE NORTH SIDE OF THE RIVER FROM I-5 ON THE WEST TO DISCOVERY PARK ON THE EAST	2006
WHITTIER	LA0B7322	'WHITTIER GREENWAY TRAIL-ACQUISITION, DESIGN, AND CONSTRUCT OF 2 MILES CLASS I BIKE/PED PATH ON AN ABANDONED RAIL ROW FROM NORWALK TO FIVE POINTS.PPNO 2872	2008
WHITTIER	LA0C8161	WHITTIER GREENWAY TRAIL: SEGMENT 1 DEVT& SEGMENT 3 P/E AND DEVT. DESIGN, CONSTRUCT & SOME ACQUISITION OF 2.86 MILES CLASS I BIKE/PED FACILITIES ON ABANDONED ROW IN WHITTIER (3440)	2008

Non-motorized Facilities - Bicycle Facilities, Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CALABASAS	LA974100	U.S. 101 INTER-JURISDICTIONAL BIKE LANE GAP CLOSURE CONSTRUCTION 4.5 MILES OF BIKEWAY IMPROVEMENTS TO CLOSE SEVERAL GAPS WITHIN A 12 MILE CORRIDOR(TEA21-#69)	2006
CITY OF LOS ANGELES	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)	2009
CITY OF LOS ANGELES	LA0C8171	GAYLEY AVE BIKE LANES & STREET WIDENING. DESIGN AND CONSTRUCTION OF .25 MILES OF CLASS II BIKE LANES ON GAYLEY AVE FROM EXISTING BIKE LANES AT LEVERING AVENUE TO THE UCLA CAMPUS	2010
CITY OF LOS ANGELES	LA0C8318	LA CITY AND SURROUNDING COMMUNITIES BICYCLE MAP-PROJECT WILL UPDATE BIKEWAY MAPPING INFO. FOR THE CITY OF LA AND PLOT BICYCLE LANE AND PATH INFORMATION ON A NEW MAP.	2006
COMPTON	LAOB7326	COMPTON CREEK BIKEWAY EXTSN - PHASE III.DSIGN & CNSTRUCT .6 MI OF CLASS 1 BIKE/PED PATH FRM GREENLEAF BL TO ARTESIA FWY.WILL INC BIKE PATH, PED WALKWAY SIGNAGE, STRPNG. (PPNO 2869).	2009
LAC MTA	LA996285	SOUTH BAY BIKE TRAIL RECONSTRCT AT PLAYA DEL REY - DESIGN AND RECONSTRCT SEGMENT OF THE TRAIL AT DOCKWEILER STATE BEACH.	2008
LAC MTA	LA996288	SAN GABRIEL RVR. BIKE TRAIL REHAB PHASE I - FROM WHITTIER NARROWS DAM TO FLORENCE AVE.	2006
PASADENA	LA0C8155	'8 SEGMENTS OF PASADENA BIKEWAY; INCLUDES IMPROVEMENTS TO SIGNALIZED INTERSECTIONS FOR BICYCLE DETECTION, SIGNAGE, RESTRIPING OF TRAFFIC LANES & STRIPING OF BIKE LANES.	2005

Non-motorized Facilities - Pedestrian Facilities, New			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CITY OF CARSON	LAE2932	213TH ST. PEDESTRIAN SIDEWALK BRIDGE OVER DOMINGUEZ CHANNEL. CONSRUCT 213TH ST. PEDESTRIAN BIRDGE TO PROVIDE SAFE PASSAGE FOR PEDESTRIANS AND WHEELCHAIRS OVER DOMINGUEZ CHANNEL	2010
CITY OF LOS ANGELES	LA0B7293	SAN PEDRO PEDESTRIAN WAY-PROVIDE PEDESTRIAN ACCESS WAYS LINKING EXISTING TRANSIT FACILITIES AND PROPOSED PARKING STRUCTURE TO SURROUNDING & OTHER DESTINATIONS IN DOWNTOWN SAN PEDRO	2007
COVINA	LA0D206	METROLINK PEDESTRIAN BRIDGE PROJECT. THIS FACILITY WILL BE CONSTRUCTED ON THE WEST SIDE OF CITRUS AVE. THE METROLINK STATION IS ON THE EAST SIDE OF CITRUS AVE.	2006
LAC MTA	LAE0036	WILSHIRE/ VERMONT PEDESTRIAN PLAZA IMPROVEMENTS AND INTERMODAL PEDESTRIAN LINKAGES	2011
PASADENA	LA0D372	SOUTH ACCESS PEDESTRIAN BRIDGE TO SIERRA MADRE VILLA LIGHT RAIL STATION. THIS PEDESTRIAN BRIDGE OVER THE ROUTE 210 FREEWAY WILL PROVIDE A DIRECT AND SAFE APPROACH FOR PEDESTRIANS	2007
SANBAG	20020106	MONTCLAIR PEDESTRIAN UNDERCROSSING-CONSTRUCTION OF A 2ND PLATFORM CREATES NEED FOR CONSTRUCTION OF NEW UNDERCROSSING	2006

Non-motorized Facilities - Pedestrian Facilities, Expansion			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CITY OF LOS ANGELES	LA0C8174	LITTLE TOKYO PEDESTRIAN LINKAGES. CONSTRUCT OF IMPRVMENT: SIDEWALK & CROSSWALK ENHANCEMENTS, STREET FURNITURE & LANDSCAPING TO PROMOTE PEDESTRIAN TRAVEL W/IN LITTLE TOKYO. PPNO 3116.	2007
CITY OF LOS ANGELES	LA0C8209	HOLLYWOOD MEDIA DISTRICT-PEDESTRIAN IMPROVEMENTS. INCLUDING SMART CROSSWALKS, TRAFFIC SIGNAL, LANDSCAPING ETC. BET. BUS STOPS ALONG SANTA MONICA BLVD, VINE ST AND HIGHLAND AVE.	2008
LAC MTA	LA974294	IN LOS ANGELES - DOWNTOWN OVER FREEWAY 101 - PEDESTRIAN BRIDGE ENHANCEMENT	2007

Information-based Strategies Marketing and Promotion of Rideshare and Intermodal Activities			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
LAC MTA	927333	RIDESHARE ACTIVITIES	2006
LAC MTA	LA0C8109	'COUNTYWIDE TRANSPORTATION SYS. AWARENESS & SATISFACTION. PROJECT WILL USE AND EXPAND UPON IT'S PREDECESSOR'S WORK, THE SERVICE PLANNING MARKET RESEARCH PROGRAM (SPMRP) FOR TRANSIT	2007
LAC MTA	LA0C8114	'LA CNTY RIDESHARE SERVICES; PROVIDE COMMUTE INFO, EMPLOYER ASSISTANCE AND INCENTIVE PROGRAMS THROUGH CORE & EMPLOYER RIDESHARE SERVICES & MTA INCENTIVE PROGRAMS. PPNO 9003	2010
LAC MTA	LA0C8315	ELECTRIC BIKE AND SCOOTER DEMONSTRATION PROJECT. PURCHASE OF ELECTRIC BIKES AND SCOOTERS AS A TEST FOR FEASIBILITY AS SUBSTITUTES FOR SHORT COMMUTE TRIPS TO PARK AND RIDE LOTS.	2007
MISSION VIEJO	ORA990902	MISSION VIEJO (CITYWIDE) REMOTE TMC AND TRAVLER/PUBLIC INFO ACCESS CENTER. PROVIDES TRAFFIC INFO TO PUBLIC LIBRARIES. EST COMM INTERTIE BETWEEN CITY AND CALTRANS	2006
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA65002	RIDESHARE SERVICES RIDEGUIDE, DATABASE, CUSTOMER INFO, AND MARKETING. (ORANGE COUNTY PORTION).	N/A
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV520111	REGIONAL RIDESHARE	N/A
SANBAG	94163	RIDESHARE ACTIVITIES FOR SOUTH COAST AIR BASIN	N/A

Information-based Strategies - Intelligent Transportation Systems/Control System Computerization			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CORONA	RIV010227	CORONA ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS)	2010
LONG BEACH	LAE1296	LONG BEACH INTELLIGENT TRANSPORTATION SYSTEMS	2011
PASADENA	LA0D47	SR 710 MITIGATION PROJECT-TRAFFIC CONTROL AND MONITORING SYSTEM-INTELLIGENT TRANSPORTATION SYSTEMS (ITS). CONSTRUCT AND INSTALL ITS TECHNOLOGY AND VARIOUS DEGREES OF SMART SIGNALS	2008
SANTA CLARITA	LA0C8130	INCIDENT MANAGEMENT - TRAVELER INFORMATION SUBSYSTEM; INSTALLATION CONSISTS OF 4 STATIONARY ELECTRONIC CHANGEABLE MESSAGE SIGNS & A HIGHWAY ADVISORY RADIO SYSTEM.	2007
TORRANCE	LA0D379	AUTOMATIC VEHICLE LOCATOR (AVL) PROJECT-PHASE 2	2007
WEST COVINA	LAE1407	PLAZA DRIVE FROM VINCENT AVE. TO CALIFORNIA AVE. INCLUDING INSTALLATIO OF TRAFFIC SIGNAL SYS AT INTERSECTION OF PLAZA DR & CALIF. THE SYNC OF TWO TRAFFIC SY, & ADD'L TURN LANES.	2009

Information-based Strategies - Real-Time Rail, Transit, or Freeway Notification Systems			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
LAC MTA	LA962214	PACIFIC COAST HIGHWAY TRAFFIC MANAGEMENT SYSTEM FROM MCCLURE TUNNEL TO TRANCAS CANYON RD TRAFFIC MAN. & BUS SPEED IMPROVEMNT(TEA21-#707). LACDPW LEAD AGENCY INSTEAD CALTRANS.	2007
LOS ANGELES COUNTY	LA0C8316	TRANSPORTATION INFORMATION PROJECT (TIP) EQUIP COUNTY EMPLOYEES AT 41 SITES THROUGHOUT LA COUNTY WITH THE TOOLS NEEDED TO PROVIDE INDIVIDUALIZED TRANSIT ITINERARIES ETC.	2007
PASADENA	LAE3790	THE PASADENA ITS INTEGRATES 2 COMPONENTS: TRAFFIC SIGNAL COMMUNICATION AND CONTRL, TRANSIT VEHICLE ARRIVAL INFO, AND PUBLIC PARKING AVAILABILITY INFO. SAFETEA-LU PRJ #3790 AND #399	2010

ATTACHMENT B

Fiscally Constrained Projects from the 2004 RTP[1]

[1] See www.scag.ca.gov/rtp2004/2004draft/techappendix/Appendix_I_ProjectList_final.pdf [2004 RTP:p. I161-I174]

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
IM	Arterial	SR-115	I-8	Evan Hewes Hwy	Construct 4-lane extension	$55,000,000		2012	6M0400E
IM	Arterial	SR-98	SR-111	Dogwood Rd/SR-98	Corridor improvements - widening and/or realignment	$30,000,000		2012	6M04001
IM	Arterial	SR-78	at Proposed SDSU Campus in Brawley		Access improvements	$3,000,000		2012	6M04001A
IM	Arterial	SR-111	South of SR-98	Port of Entry	Improvements	$50,000,000		2012	6M01002
IM	Mixed Flow	SR-111	SR-98	I-8	Upgrade to 4-lane freeway with interchange(s) at several locations	$90,000,000		2012	6M01003
IM	Arterial	SR-111	SR-78 (Brawley)	SR-115 (Calipatria)	Upgrade to 4-lane conventional	$50,000,000		2012	6M01004
IM	Arterial	SR-98	West of SR-111 @ RR crossing		Construct bridge structure	$1,500,000		2022	6M01007
IM	Arterial	Dogwood Rd Corridor / I-8 Overpass	SR-98	I-8	Corridor improvements - widen to 6 lanes from McCabe to I-8; I-8 improvement to 6 lanes	$90,000,000		2012	6M04018
IM	O&M	State Highway and Arterial Preservation	Countywide		State Highway and Arterial Preservation/Maintenance	$157,500,000		2030	6PL04
IM	TDM	TDM/Non-motorized	Countywide		TDM (Non-motorized, telecommute, etc.)	$32,000,000		2030	6TDL04
IM					**Total Imperial County**	**$559,000,000**	**$0**		
LA	Arterial	Arterial Improvements	Countywide		Regional Surface Transportation Improvements - refer to separate Arterials project list	$583,200,000		2030	1AL04
LA	Grade Crossing	Grade Crossing	Countywide		Arterial Goods Movement - refer to separate Grade Crossings project list	$522,600,000		2030	1GL04
LA	HOV	I-5/SR-170	North to South/South to North		HOV Connector	$43,000,000		2025	1H0102

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
LA	HOV	I-5/I-405	North to South/South to North		HOV Connector	$85,000,000		2025	1H0103
LA	HOV	SR-60	Grand Ave		Construct HOV drop ramps at Grand Ave	$6,000,000		2025	1H0405
LA	HOV	SR-14	Ave. P-8	Ave. L	Add 1 HOV lane each dir	$27,000,000		2015	1H0101
LA	HOV	I-710	I-10	Huntington Dr	Construct 1 HOV lane each dir	$100,000,000		2012	1H0104A
LA	HOV	I-710	Huntington Dr	I-210	Construct 1 HOV lane each dir	$150,000,000		2025	1H0104B
LA	Mixed Flow	I-710	I-10	Huntington Dr	Construct 3 MF lanes each dir	$300,000,000		2012	1M0101A
LA	Mixed Flow	I-710	Huntington Dr	I-210	Construct 3 MF lanes each dir	$450,000,000		2025	1M0101B
LA	Mixed Flow	I-5 Interchanges	Orange County Line	Rosemead Blvd	Interchange improvements	$209,000,000		2025	1M0103
LA	Mixed Flow	SR-57/SR-60			Interchange improvement	$209,000,000		2025	1M0104
LA	Mixed Flow	Gerald Desmond Bridge replacement			Replacement of existing bridge connecting Terminal Island to I-710		$570,400,000	2009	1M0171
LA	O&M	State Highway and Arterial Preservation	Countywide		State Highway and Arterial Preservation/Maintenance	$3,030,000,000		2030	1PL04
LA	TDM	Non-motorized	Countywide		Bikeway and Pedestrian Improvements, Transportation Enhancements	$513,300,000		2030	1NL04
LA	TDM	TDM	Countywide		Transportation Demand Management	$186,600,000		2030	1TDL04
LA	TDM	Rideshare	Countywide		Rideshare Services	$114,300,000		2030	1RL04
LA	ITS	ITS	Countywide		Signal Synchronization & Bus Speed Improvement	$676,500,000		2030	1ITS04
LA	Transit	Metrolink Commuter Rail	Countywide		Service Expansion	$388,000,000		2030	1CR04

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
LA	Transit	Countywide Bus System Improvement	Countywide		Countywide Bus System Improvement	$2,197,000,000		2030	1TL104
LA	Transit	Transit Capital Project Funding	Countywide		Transit Capital Project Funding	$293,000,000		2030	1TL204
LA	Transit	Tiered Transit System	Countywide		Implementation		TBD	2030	1TL304
LA	Transit	Community Transit Service	Countywide		Community Transit Service (shuttles, local circulators)		TBD	2030	1TL404
LA	Transit	Green Line Extension	Mariposa@Nash to Century@Sepulveda (LAX Term.)		Light Rail		$168,000,000	2020	1TR0101
LA	Transit	Crenshaw Corridor			Transit Corridor (technology TBD)	$201,000,000		2008	1TR0102
LA	Transit	Gold Line Extension	Pasadena	Claremont	Light Rail	$595,000,000		2012	UT103
LA	Transit	Metro Center Connector	Blue Line/Exposition Line	Gold Line	Downtown Light Rail Connector	$126,000,000		2012	1TR0404
LA	Transit	Red Line Extension	Western Ave	Fairfax Ave	Subway	$710,000,000		2012	UT101
LA	Corridor	El Camino Real (US-101) Corridor	SR-23 in Ventura County	SR-134/SR-170	User-Fee-Backed Capacity Enhancement	$329,000,000	$4,100,000,000	2030	1T0401
LA					**Total Los Angeles County**	**$12,044,500,000**	**$4,838,400,000**		
OR	Arterial	Arterial Improvements	Countywide		Smart Street and Other Improvements - refer to separate Arterials project list	$326,600,000	$687,600,000	2030	2AL04
OR	Arterial	Arterial Improvements	Countywide		Measure M Regional/Local Projects & MOE	$355,700,000	$276,800,000	2011	2L183
OR	Arterial	Arterial Improvements	Countywide		Regional Surface Transportation Program Projects - Capital and Maintenance Streets and Roads Projects	$661,000,000		2030	2L184

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
OR	Arterial	Arterial Improvements	Countywide		TCRP Subventions and Proposition 42 City/County Funding		$781,000,000	2030	2L185
OR	Arterial	Arterial Improvements	Countywide		Gas Tax Subventions for Street Projects/Maintenance (With projects, represents 100% of anticipated subventions for local jurisdictions)		$1,360,000,000	2030	2L186
OR	Grade Crossing	Grade Crossing	Countywide		Grade Crossing Improvements - refer to separate Grade Crossings project list	$318,400,000		2020	2GL04
OR	Toll	SR-91/SR-241			Add direct toll-to-toll or HOV connection from north/south SR-241 to SR-91 toll lanes to/from the east		$65,000,000	2015	2T01135
OR	Toll	SR-91	SR-241	SR-71	Add toll lane and toll connection at SR-71 (RIV) (per Four Corners Study)		$160,000,000	2020	2T04136
OR	HOV	I-5 NB/SB	Coast Highway	Pico	Add 1 HOV lane each direction	$70,000,000		2020	2H01143
OR	HOV	SR-22/I-405			HOV Connector	$75,000,000		2020	ORA000193
OR	HOV	I-405/I-605			HOV Connector	$105,000,000		2020	2H01145
OR	HOV	I-405	at Von Karman		HOV Drop Ramp	$50,000,000		2020	2H01148
OR	Mixed Flow	SR-57 NB	Orangethorpe	Lambert	MF or Aux Capacity	$77,000,000		2010	2M01117

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
OR	Mixed Flow	SR-57 NB	at SR-91		Add 4th through lane	$1,000,000		2010	2M01118
OR	Mixed Flow	SR-91 EB/WB	SR-55	Riverside County Line	Add 1 MF lane each direction	$250,000,000		2010	2M04121
OR	Mixed Flow	I-405	SR-73	Beach	Add 1 MF lane each direction	$130,000,000		2030	2M04132A
OR	Mixed Flow	Chokepoints	Countywide	Countywide	Other Chokepoints	$69,200,000		ongoing to 2030	2L133
OR	Mixed Flow	SR-91 EB/WB	Truck scales	Imperial	Add storage lane at truck weigh in motion station	$8,000,000		2007	2M01124
OR	Auxiliary	I-5 SB	La Paz Road	Oso Parkway	Extend auxiliary lane through interchange	$1,500,000		2030	2M01108
OR	Auxiliary	I-5 SB	Alicia Parkway		Extend auxiliary lane through interchange	$5,000,000		2030	2M01110
OR	Auxiliary	SR-55	17th / 4th / I-5 area		Add southbound auxiliary lane from SR-22 to I-5 to address lane drop/merge issues	$10,000,000		2010	2M04114
OR	Auxiliary	SR-55 SB	Dyer	MacArthur	Auxiliary lane	$1,300,000		2010	2M04115
OR	Auxiliary	SR-57 NB	Katella on-ramp	Lincoln off-ramp	Auxiliary lane, full standard median	$18,100,000		2020	2M01119
OR	Auxiliary	SR-57 SB	Ball off ramp	Katella on ramp	Add auxiliary lane	$75,000,000		2030	2M01120
OR	Auxiliary	SR-91 WB	SR-71	SR-241	Add auxiliary lane	$10,000,000		2010	2M01122
OR	Auxiliary	SR-91 EB	SR-241	SR-71	Add auxiliary lane EB which drops at Green River, another extends to SR-71	$36,000,000		2007	2M01123
OR	Auxiliary	SR-91 WB	NB SR-55	WB SR-91 at Tustin	Add auxiliary lane	$35,000,000		2010	2M01125

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
OR	Auxiliary	SR-91 WB	SR-57	I-5 (WB Only)	Add auxiliary lane	$20,000,000		2010	2M01126
OR	Auxiliary	I-405 NB	SR-133	Sand Canyon	Widen NB I-405 SR-133 to Sand Canyon, add aux lane	$2,100,000		2004	2M0423
OR	Auxiliary	I-405 SB	Irvine Center Drive	Irvine Center Drive	Add 2nd auxiliary lane	$1,300,000		2010	2M04130
OR	Auxiliary	I-405 NB	Jeffrey	Culver	Add auxiliary lane	$3,100,000		2010	2M04131
OR	Auxiliary	I-405 NB	Sand Canyon	Culver	Tie auxiliary lanes together	$2,500,000		2030	2M01132
OR	Auxiliary	I-405 SB	Beach	I-605	Continuous auxiliary lane, operational improvements	$75,000,000		2030	2M04132B
OR	IC/Ramps	I-5 NB/SB	La Paz Road		Re-construct interchange to increase storage capacity of ramps	$29,400,000		2010	2M01109
OR	IC/Ramps	I-5	Stonehill Dr		Add southbound I-5 off-ramp at Stonehill	$7,000,000		2020	2M04109A
OR	IC/Ramps	I-5 NB/SB	Avery Parkway		Avery parkway ramp relocation, reconfiguration, upgrades	$13,900,000		2010	2M01111
OR	IC/Ramps	I-5 NB/SB	Jamboree Road		Provide two lanes off and widen terminal section of off-ramp, modify NB ramp	$6,000,000		2010	2M01112
OR	IC/Ramps	I-5 NB/SB	I-5/SR-74 Separation		Rebuild interchange including widening of SR-74 overcrossing	$50,000,000		2010	2M01113
OR	IC/Ramps	I-5 SB	1st and SR-55		Reconfigure to reduce weaving - interim project	$50,000,000		2020	2M01107
OR	IC/Ramps	SR-91	Fairmont Drive		Add intermediate access to 91 Express Lanes at Fairmont Drive to/from the east	$70,000,000		2010	2T04128
OR	IC/Ramps	SR-91	Lakeview Interchange		Construct barrier-separated on-ramp (2 lanes) from SB Lakeview to WB SR-91	$15,000,000		2010	2M01127

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
OR	IC/Ramps	I-405/SR-55	South Bristol Braid		Delete left turn access from NB Bristol to SB I-405. Provide right turn on-ramp from NB Bristol to SB I-405 via a new braid that also provides direct access to NB SR-55.		$40,000,000	2020	2M01129
OR	O&M	State Highway and Arterial Preservation	Countywide		State Highway and Arterial Preservation/Maintenance	$760,000,000		ongoing to 2030	2PL04
OR	Other	Motorist Services	Countywide		Freeway Service Patrol and Callbox Program	$150,800,000		2030	2L149
OR	Other	Soundwalls	Countywide		Retrofit Soundwall Program	$87,000,000		2030	2L150
OR	Other	Project Development	Countywide		Project Development	$84,000,000		2030	2L222
OR	Other	Other TEA	Countywide		Transportation Enhancement Activities	$45,200,000		2030	2L224
OR	Other	Cal Nevada HS Rail	Anaheim	Ontario Airport	Study feasibility of adding high speed rail between Anaheim and Ontario Airport		TBD		2S1
OR	Other	SR-57/Santa Ana River Corridor	SR-22/SR-57/I-5	I-405	Regionally Significant Transportation Investment Study (RSTIS)	$1,007,000			2S2
OR	Other	SR-91	Orange County	Riverside County	Regionally Significant Transportation Investment Study (RSTIS)	$2,250,000			2S3
OR	Other	I-405			Regionally Significant Transportation Investment Study (RSTIS)	$1,150,000			2S4
OR	Other	I-5 South			Regionally Significant Transportation Investment Study (RSTIS)	$1,500,000		2006	2S5
OR	Other	Other Studies			Other studies included in FY 03-04 Work Program	$2,690,000			2SL04

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CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
OR	TDM	Rideshare	Countywide		Regional Rideshare - Invest in transportation demand management programs	$27,000,000		2030	2L219
OR	TDM	Non-motorized	Countywide		Build the Commuter Bikeways Strategic Plan	$115,000,000		ongoing to 2030	2L220
OR	ITS	ITS	Countywide		Invest in Intelligent Transportation Systems Programs	$29,000,000		2030	2L221
OR	Transit	Fixed Route Bus	Countywide		Countywide Fixed Route, Express, Rail Feeder, Rapid Bus. Expand local service to achieve 10-minute headways in the core of the county. Expand to 2.5 million annual vsh by 2030.	$1,892,800,000		2030	2L206
OR	Transit	Express Bus	Countywide (inter-county and intra-county)		Industry to Anaheim Resort (04); 4 rtes btwn OR to RV Co (03); Rancho Santa Margarita to Irvine Transp Ctr (10); Long Beach to South Coast Metro (04); San Clemente to South Coast Metro (04); Long Beach to Orange (07); Laguna Hills to Anaheim (04); Other	costs included in Fixed Route Bus category		2030	2L207
OR	Transit	Rail Feeder Bus	Countywide		Rail Feeder - Add StationLink service to an estimate 40,000 annual vsh	costs included in Fixed Route Bus category		2030	2L208

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CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
OR	Transit	Bus Rapid Transit	Countywide		Add Bus Rapid Transit in mixed traffic with signal priority on the following lines: Harbor ('07), Westminster ('09), Katella ('13), Edinger ('17), Beach ('11), La Palma ('15)	costs included in Fixed Route Bus category		2030	2TR01209A, 2TR04209B, 2TR01209C, 2TR04209D, 2TR04209E, 2TR04209F
OR	Transit	Elderly & Handicapped Assistance	Countywide		Paratransit - Expand specialized transit to meet ADA mandates - estimated from .400 million to .700 million annual vsh. Includes paratransit bus base ($12 million)	$274,580,000		2030	2L210
OR	Transit	Elderly & Handicapped Assistance	Countywide		Senior Mobility Program - Provide community based senior transportation services	$68,000,000	$25,500,000	2030	2L210A
OR	Transit	Bus Stops	Countywide		Bus Stop Accessbility Program - Invest in making bus stops accessible for people with disabilities	$10,000,000		2011	2L211
OR	Transit	Metrolink Commuter Rail	Orange Line/IEOC Line/91 Line		Expand service - Orange Line to 30 daily trains, IEOC to 21 daily trains, 91 line to 21 daily trains. Plan for midday intracounty service Laguna Niguel to Fullerton.	$266,300,000		2030	2TR01212
OR	Transit	Track La Mirada Basta	La Mirada		DT Junction to La Mirada Triple Track	cost included in Metrolink Commuter Rail category		2004	2TR01212

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
OR	Transit	Metrolink Commuter Rail	Anaheim Stadium		Parking Structures and Platform Extensions - Metrolink Station		$73,200,000	TBD	2TR04217
OR	Transit	CenterLine Light Rail			Funding Reserve for Extensions (Extend CenterLine north to Fullerton or west along PE ROW) + Santa Ana College Link	$770,000,000		2030	2TR04218
OR	Transit	Transit Center			Construct Intermodal Center at the Metrolink station in Santa Ana (CenterLine station)	$50,000,000		2020	2TR04223
OR	Truck Climbing	SR-57 NB	Lambert	Tonner Canyon Road	Truck Climbing Lane	$68,300,000		2010	2TK01116
OR					**Total Orange County**	**$7,740,677,000**	**$3,469,100,000**		
RV	Arterial	Arterial Improvements	Coachella Valley		Widen/construct regional arterials	$628,000,000		2030	3AL104
RV	Arterial	Arterial Improvements	Western County		Widen/construct regional arterials	$300,000,000		2030	3AL204
RV	Arterial	Arterial Improvements	Countywide		Countywide arterial improvements - refer to separate Arterials project list	$1,971,000,000	$962,000,000	2030	3AL304
RV	Grade Crossing	Grade Crossing	Countywide		Grade Crossing Improvements - refer to separate Grade Crossing projects list	$672,995,000		2030	3GL04
RV	Corridor	CETAP - Cajalco/Ramona	Hemet	Corona/Lake Elsinore	Cajalco/Ramona expressway (3 lanes each dir) from Sanderson Ave to I-15	$466,000,000		2010	3C01MA01

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
RV	Corridor	CETAP - Moreno Valley to San Bernardino County	Moreno Valley	San Bernardino County	Construct new intercounty transporation corridor	$181,000,000	$1,051,000,000	2030	3C01MA02
RV	Corridor	CETAP - Riverside County to Orange County	Riverside County	Orange County	Construct new intercounty transporation corridor	$402,000,000	$2,348,000,000	2030	3C01MA03
RV	Corridor	CETAP - Temecula Corridor	Winchester (SR-79/SR-74)	Temecula	On I-15, widen to 1 HOV & 6 MF each dir from I-215 to Winchester, 1 HOV & 5 MF each dir from Winchester to San Diego County Line; on I-215, widen to 1 HOV & 4 MF each dir from Newport Rd to I-15; improve I-15/I-215 interchange	$150,000,000		2030	3C01MA04
RV	HOV	SR-60/I-215	SR60/I-215 E. Jct	East to SR-60 and South to I-215	HOV Connector	$40,000,000		2025	3H01SH03
RV	HOV	I-15	San Diego County Line (R0.0)	SR-60 (51.5)	Add 1 HOV lane each direction (EA's 33790G, 33800G)	$359,000,000		2025	3M01MA06
RV	HOV	SR-91/I-15	South to West/West to South		HOV Connector	$243,000,000		2025	3M04MA11
RV	Mixed Flow & HOV	I-215	SR-60/SR-91/I-215 Jct	San Bernardino County Line	Add 1 MF and 1 HOV lane each direction (EA 467200)	$231,000,000		2015	3M01MA08
RV	Mixed Flow	I-10	Monterey Ave (44.5)	Dillon Rd (58.9)	Add 1 MF lane each direction (EA 0A030K)	$71,000,000		2025	3M01SH06
RV	Mixed Flow	I-10/SR-60			Construct new interchange	$129,000,000		2030	3M04MA05
RV	Mixed Flow	I-215	Eucalyptus Ave (R37.4)	I-15 (R8.9)	Add 1 MF lane each direction (EA's 35380K, 35390K, 35370K)	$210,000,000		2025	3M01MA07
RV	Mixed Flow	SR-71	SR-91	San Bernardino County Line	Widen to 3 MF lanes each direction	$68,000,000		2030	3M01MA09

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CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
RV	Mixed Flow	SR-91	Pierce Street	Orange County Line	Add 1 MF lane each direction	$161,000,000		2015	3M04MA10
RV	Mixed Flow	SR-91/SR-71			Improve interchange	$26,000,000		2030	3M04MA12
RV	Mixed Flow	SR-79	Ramona Expwy	Domenigoni Parkway	Realign highway (construct 4 lanes)	$132,000,000		2015	3A01MA01
RV	Mixed Flow	SR-79	Hunter	Ramona Expwy	Widen from 4 to 6 lanes (note: RTIP#46460 widens to 6 lanes from Hunter to Domenigoni)	$65,000,000		2025	3A04SH12
RV	Auxiliary	I-10	Calimesa @ County Line Rd (R4.0)	500 meters e/o Sandlwood Dr I/C (R4.3)	Replace Bridge, Ramps, Construct Auxiliary Lanes, and Realign Calimesa Rd (EA 0A710K)	$60,000,000		2015	3M04SH05
RV	Auxiliary	SR-60	0.4 mi e/o I-15/SR-60 IC	0.2 mi e/o Main St	Add auxiliary lanes both directions	$5,000,000		2009	3M04SH11
RV	Auxiliary	SR-91 WB	SR-71	Orange County Line	Add auxiliary lane	see Orange County listing		2010	2M01122
RV	Auxiliary	SR-91 EB	Orange County Line	SR-71	Add auxiliary lane EB which drops at Green River, another extends to SR-71	$29,120,000		2007	2M01123
RV	IC/Ramps	I-10	at SR-79/Beaumont Ave	btwn 6th St & 1st St	Reconstruct interchange/ramps	$14,500,000		2020	3M04WT001
RV	IC/Ramps	I-10	at 8th St	btwn Ramsey St & Lincoln St	Reconstruct interchange/ramps	$2,900,000		2020	3M04WT002
RV	IC/Ramps	I-10	at Ave 50		Construct new interchange	$19,468,000		2006	3M01CV01
RV	IC/Ramps	I-10	at Calimesa Blvd/Sandalwood Dr	btwn 7th St & Sandalwood Dr	Reconstruct interchange/ramps	$29,000,000		2008	3M04WT003
RV	IC/Ramps	I-10	McNaughton Pkwy (approx. 3.38 mi e/o Dillon Rd)		Construct interchange	$20,000,000		2008	3M04SH07
RV	IC/Ramps	I-10	at Pennsylvania Ave	btwn 6th St & 3rd St	Reconstruct interchange/ramps	$14,500,000		2020	3M04WT004

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CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
RV	IC/Ramps	I-10	at Portola Ave	btwn Dinah Shore & Varner	Construct new IC (4 lanes) and ramps incl. bridge over UPRR & Varner realignment	$19,750,000		2008	RIV031209
RV	IC/Ramps	I-10	at Monterey Ave		Reconfigure IC, add 1 NB lane, construct new WB entry loop ramp from Monterey & WB entry ramp from Varner, realign/relocate WB exit ramp	$4,250,000		2005	RIV031208
RV	IC/Ramps	I-15	at 6th St	btwn Hamner Ave & Sierra Ave	Reconstruct interchange/ramps	$14,500,000		2010	3M04WT005
RV	IC/Ramps	I-15	at Bellegrave Ave	btwn Hamner Ave & Wineville Rd	Add signals and ramps. 0.1 mi.	$3,289,000		2025	3A04A26
RV	IC/Ramps	I-15	at Hidden Valley Pkwy	btwn Hamner Ave & Beyond NB Exit Ramp	Reconstruct interchange/ramps	$2,900,000		2010	3M04WT007
RV	IC/Ramps	I-215	at SR-74/4th St	btwn G St & San Jacinto Ave	Reconstruct interchange/ramps	$14,500,000		2008	3M04WT008
RV	IC/Ramps	I-215	at SR-74 (Matthews Rd)	btwn Case Rd & Trumble Rd	Reconstruct interchange/ramps	$2,900,000		2025	3M04WT009
RV	IC/Ramps	I-215	at Cactus Ave	btwn W. Frontage Rd & Elsworth St	Reconstruct interchange/ramps	$2,900,000		2009	3M04WT010
RV	IC/Ramps	I-215	at Center St	btwn Stephens Ave & Iowa Ave	Reconstruct interchange/ramps	$13,000,000		2025	3M04WT011
RV	IC/Ramps	I-215	at Columbia Ave	btwn Primer St & Brandywine Ave	Reconstruct interchange/ramps	$12,000,000		2020	3M04WT012
RV	IC/Ramps	I-215	at Ethanac Rd	btwn Barnett Rd & Trumble Rd	Reconstruct interchange/ramps	$2,900,000		2012	3M01WT013
RV	IC/Ramps	I-215	at Garbani Rd	btwn Haun Rd & Antelope Rd	Construct new interchange - add 4-lane overpass and ramps. 0.1 mi.	$10,914,000		2025	3A04A27

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CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
RV	IC/Ramps	I-215	at Keller Rd	bwn Zeiders Rd & Antelope Rd	Construct 4-lane overcrossing and ramps	$2,000,000		2030	3A04A28
RV	IC/Ramps	I-215	at Nuevo Rd	btwn A St & E. Frontage Rd	Reconstruct interchange/ramps	$2,900,000		2013	3M04WT014
RV	IC/Ramps	I-215/SR-60	at Central Ave	btwn Springs Blvd & Watkins Dr	Reconstruct interchange/ramps	$2,900,000		2006	3M04WT015
RV	IC/Ramps	I-215/SR-60	at University Ave	btwn Iowa Ave & Canyon Crest Dr	Reconstruct interchange/ramps	$2,900,000		2020	3M04WT016
RV	IC/Ramps	SR-60	at Etiwanda Ave	btwn San Sevaine Wy & Iberia St	Widen ramps 1 to 2 lanes. 0.1 mi.	$224,000		2015	3A04A29
RV	IC/Ramps	SR-60	at Heacock St	btwn Hemlock Ave & Sunnymead Blvd	Reconstruct interchange/ramps	$2,900,000		2011	3M04WT017
RV	IC/Ramps	SR-60	at Main St	btwn Russell St & Stoddard Ave	Reconstruct interchange/ramps	$2,900,000		2020	3M04WT018
RV	IC/Ramps	SR-60	at Milliken Ave	btwn Etiwanda Ave & Wineville Rd	Widen ramps 1 to 2 lanes. 0.1 mi.	$75,000		2020	3A04A30
RV	IC/Ramps	SR-60	at Mission Blvd	btwn WB On Ramp & Etiwanda Ave	Reconstruct interchange/ramps	$2,900,000		2025	3M01WT019
RV	IC/Ramps	SR-60	at Mission Blvd	btwn Granite Hill Dr & Sevaine Way	Reconstruct interchange/ramps	$2,900,000		2025	3M01WT020
RV	IC/Ramps	SR-86 S	at Ave 50		Construct interchange	$9,276,000		2010	3M01CV02
RV	IC/Ramps	SR-86 S	at Ave 52	btwn La Hernandez and Polk	Construct new interchange	$19,700,000		2015	3M04SH08
RV	IC/Ramps	SR-86	at Ave 54	btwn SR-111 & Fillmore	Construct bridge/interchange w new SR-86	$11,210,000		2030	3M01CV03
RV	IC/Ramps	SR-86 S	at Airport Blvd/Ave 56	btwn Orange & Fillmore	Construct new interchange (Spread-Diamond)	$17,800,000		2008	3M04SH09
RV	IC/Ramps	SR-86 S	at SR-195 (Avenue 66) R10.63/R11.43		Near Mecca, construct new interchange	$19,350,000		2010	0E620K
RV	IC/Ramps	SR-86 S	Tyler St w/o SR-86S	Tyler St e/o SR-86S	Construct new interchange	$19,000,000		2015	3M04SH10

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CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
RV	IC/Ramps	SR-91	at 14th St	btwn Olivewood Ave & Commerce St	Reconstruct interchange/ramps	$14,500,000		2010	3M01WT021
RV	IC/Ramps	SR-91	at Adams St	btwn Diana Ave & Indiana Ave	Reconstruct interchange/ramps	$2,900,000		2020	3M01WT022
RV	IC/Ramps	SR-91	at Madison St	btwn Garden St & Indiana Ave	Reconstruct interchange/ramps	$2,900,000		2020	3M01WT023
RV	IC/Ramps	SR-91	at Magnolia Ave	btwn Merced Dr & Fillmore St	Reconstruct interchange/ramps	$2,900,000		2020	3M01WT024
RV	IC/Ramps	SR-91	at Serfas Club Dr	btwn Frontage Rd & Wardlow Rd	Reconstruct interchange/ramps	$2,900,000		2015	3M01WT025
RV	IC/Ramps	SR-91	at Tyler St	btwn Diana Ave & Indiana Ave	Reconstruct interchange/ramps	$2,900,000		2020	3M01WT026
RV	IC/Ramps	SR-91	at University Ave	btwn Lemon St & Vine St	Reconstruct interchange/ramps	$2,900,000		2010	3M01WT027
RV	O&M	State Highway and Arterial Preservation	Countywide		State Highway and Arterial Preservation/Maintenance	$552,000,000		2030	3PL04
RV	Other	Economic Development	Western County		Infrastucture & facility improvements incentives	$40,000,000		2030	3EL04
RV	TDM	Rideshare	Countywide		RCTC Commuter Assistance Program: rideshare and other incentive programs, TDM (telecommute, park and ride, etc.)	$66,400,000		2030	3RL04
RV	TDM	Non-motorized	Countywide		Non-motorized	$50,000,000		2030	3NL04
RV	ITS	ITS	Countywide		Intelligent Transportation Systems	$25,000,000		2030	3ITS04
RV	Transit	Metrolink Commuter Rail	Countywide		Metrolink Improvements (track, rolling stock)	$280,000,000		2030	3CR104
RV	Transit	Metrolink Commuter Rail	IEOC & 91 Lines		Metrolink Rail Station Improvements	$20,000,000		2030	3CR204

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CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
RV	Transit	Metrolink Commuter Rail			Metrolink Construct New Station At 3360 Van Buren Blvd In Riverside (Parking 550 Spaces)	$9,500,000		2015	RIV011243
RV	Transit	Bus Rapid Transit	Corona	Moreno Valley	Bus Rapid Transit (BRT): 65 Intersections Retrofitted for Signal Priority for Transit and Automated Travel Information at 15 Bus Stops	$850,000		2006	3TR04A, 3TR04B
RV	Transit	Bus Rapid Transit	Coachella Valley		Rapid Bus/BRT	$10,000,000		2010	3TR04C
RV	Transit	Metrolink Commuter Rail & Intercity Bus	Western County		Metrolink & commuter bus services expansion	$255,000,000		2030	3CR304
RV	Transit	Elderly & Handicapped Assistance	Coachella Valley		Elderly & Handicapped Assistance	$19,500,000		2015	3TL104
RV	Transit	Elderly & Handicapped Assistance	Countywide		Provide additional senior/special transit services	$85,000,000		2030	3TL204
RV	Transit	Local Transit Service	Coachella Valley		Operations and Maintenance - Local Transit Service	$156,000,000		2015	3TL304
RV	Transit	Transit ITS	Coachella Valley		ITS/Consistency with Reg. Project; GFI, Bus Cameras, Smart Fare Boxes	$2,000,000		2006	3TL404
RV	Transit	Bus Purchases	Coachella Valley		Purchase 3 Additional Expansion Hydrogen Buses, Routes TBD	$1,000,000		2005	3TL504
RV	Transit	Bus Stops	Western Riverside County area		Safety and Security Enhancements at Bus Stops (e.g. Lighted Shelters, Bus Benches, and Concrete Pads) 250 stops - specific implementation locations	$976,000	$24,000	2005	3TL604

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CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
					TBA				
RV	Transit	Transit Center	Banning/ Beaumont/ Calimesa area		Transit Center	$6,000,000		2007	3TC04TR1
RV	Transit	Transit Center	City of Temecula		Transit Center	$6,000,000		2006	3TC04TR2
RV	Transit	Transit Center	Coachella Valley		Construct 3 Transit Centers in the Coachella Valley, locations TBD	$15,000,000		2010	3TC04TR3
RV	Transit	Transit Center	Downtown Riverside		Transit Center	$6,000,000		2006	3TC04TR4
RV	Transit	Transit Center	Hemet/San Jacinto zone		Transit Center	$6,000,000		2006	3TC04TR5
RV	Transit	Transit Center	Menifee (southwestern Riverside County)		Transit Center	$6,000,000		2008	3TC04TR6
RV	Transit	Transit Center	Moreno Valley/ Perris		Transit Center	$6,000,000		2007	3TC04TR7
RV	Transit	Transit Center	Northwest Riverside County zone - East Vale/ Norco		Transit Center	$6,000,000		2008	3TC04TR8
RV	Transit	Transit Center	South Corona/ Riverside County area		Transit Center	$6,000,000		2007	3TC04TR9
RV	Transit	Transit Center	Southwest Lake Elsinore/ Murrieta		Transit Center	$6,000,000		2008	3TC04TR10
RV	Transit	Facility Acquisition/ Construction	Thousand Palms		Facility Acquisition/Construction	$10,000,000		2007	3TC04TR11
RV	Truck Climbing	I-10	San Bernardino County Line (R0.0)	Banning City Limits (12.9)	Add eastbound truck climbing lane	$75,000,000		2015	3TK04MA12
RV	Truck Climbing	SR-60	Badlands area east of Moreno Valley	Badlands area - west of SR-60/I-10 Jct	Add eastbound truck climbing lane	$26,000,000		2030	3TK04MA13

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CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
RV					**Total Riverside County**	**$8,708,347,000**	**$4,361,024,000**		
SB	Arterial	Arterial Improvements	Countywide		Countywide arterial improvements - refer to separate Arterials project list	$703,000,000		2030	4AL04
SB	Grade Crossing	Grade Crossing	Countywide		Grade Crossings - refer to separate Grade Crossings project list	$500,000,000		2020	4GL04
SB	HOV	I-10	I-15	SR-38	Add 1 HOV lane each direction, widen UC's, reconstruct ramps	$350,000,000		2020	4H01001
SB	HOV	I-10	SR-38	Yucaipa Bl	Add 1 HOV lane each direction	$0		2020	4H01002
SB	HOV	I-10	Yucaipa Bl	Riverside County Line	Add 1 HOV lane each direction	$23,000,000		2025	4H01003
SB	HOV	I-15	Riverside County Line	I-215	Add 1 HOV lane each direction	$99,000,000		2025	4H01004
SB	HOV	I-15	I-215	US-395	Add 1 HOV lane each direction	$114,000,000		2020	4H01005
SB	HOV	I-15	US-395	D St	Add 1 HOV lane each direction	$74,000,000		2020	4H01006
SB	HOV	I-215	Riverside County Line	I-10	Add 1 HOV lane each direction	$86,500,000		2015	4H01007
SB	HOV	I-215	SR-30	I-15	Add 1 HOV lane each direction	$48,000,000		2025	4H01008
SB	HOV	I-10/I-215	South to East/East to South		HOV Connector	$15,000,000		2025	4H01009
SB	HOV	I-10/I-15	South to West/West to South		HOV Connector	$14,000,000		2025	4H01010
SB	HOV	I-10/I-15	North to West/West to North		HOV Connector	$14,000,000		2025	4H01011
SB	Mixed Flow	I-10 WB	Yucaipa Bl	Ford St	Add 1 MF lane westbound	$30,000,000		2015	4M04200
SB	Mixed Flow	I-215	Riverside County Line	I-10	Add 1 MF lane each direction	$86,500,000		2015	4M04001

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CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
SB	Mixed Flow	I-215	I-10	SR-30	Add 1 MF lane each direction (restriping)	$500,000		2010	4M01002
SB	Mixed Flow	I-215	SR-30	I-15	Add 1 MF lane each direction	$48,000,000		2025	4M01003
SB	Mixed Flow	SR-210	I-215	I-10	Add 1 MF lane each direction and widen UC's	$120,000,000		2020	4M01005
SB	Mixed Flow	SR-18	Los Angeles County Line	US 395	Widen from 1 to 2 lanes each dir	$27,000,000		2020	4A01900
SB	Mixed Flow	SR-18	0.8 mi west of Orchard Dr (PM 79.9)	2.1 mi west of Orchard Dr (PM 81.2)	Construct Passing Lanes (PM 79.9/81.2) and Turn Lanes (PM 73.76/84.33)	$13,600,000		2010	4A04902
SB	Mixed Flow	SR-38 (Orange/Lugonia)	Redlands City Limit (W)	Redlands City Limit (E)	Widen from 1 to 2 lanes each dir	$6,000,000		2020	4A01382
SB	Mixed Flow	SR-62 (Twentynine Palms Hwy)	Fairway Dr	SR-247	Widen from 2 to 3 lanes each dir	$7,000,000		2020	4A01383
SB	Mixed Flow	SR-83 (Euclid)	Merril Av	Kimball Av	Widen from 2 to 4 lanes each dir	$1,000,000		2010	4A01384
SB	Mixed Flow	SR-142 (Chino Hills Pkwy)	Carbon Canyon Rd	Pipeline Dr	Widen from 2 to 3 lanes each dir	$3,000,000		2020	4A01385
SB	Mixed Flow	SR-247 (Old Woman Springs Rd)	North of SR-62	Griffith Rd	Widen from 1 to 2 lanes each dir	$3,000,000		2020	4A01386
SB	Auxiliary	I-10 and I-215	On I-10 from 0.1 km w/o I-215 (PM 23.6) to 0.9km e/o SR-38 (PM 31.4)	On I-215 from Riverside County Line (PM 0.0) to Jct I-10/I-215 (PM 4.03)	Install Fiber Optic Communications (FOC) backbone system, Changeable message signs (CMS), Ramp metering stations (RMS), modify existing communication hub, CCTV, VDS, TOS Cabinets; widen on-ramps on I-10 and I-215; add aux lanes on I-10 (various locations)	$9,500,000		2006	4M04021

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
SB	Auxiliary	US-395	NB from 0.84mi s/o Desert Flower Rd to 2.84mi n/o Purple Sage St, and from 4mi n/o Shadow Mountain Ave to 6.07mi n/o Shadow Mountain Ave	SB from 2.72mi n/o Purple Sage St to 0.95mi s/o Desert Flower Rd, and from 5.95mi n/o Shadow Mountain Ave to 3.88mi n/o Shadow Mountain Ave	Add Passing Lanes in both directions and adjust vertical and horizontal alignments	$26,000,000		2015	4M04009
SB	Auxiliary	I-10	Waterman Av (PM 25.5)	Tippecanoe Ave (PM 26.27)	Add eastbound auxiliary lane (500m) and widen eastbound Tippecanoe off-ramp from 1 to 2 lanes	$740,000		2005	4M04053
SB	IC/Ramps	I-10	0.1 km e/o I-15 (PM 9.9)	0.4 km e/o I-215 (PM R24.5)	Install RMS, CCTV ESU; widen entrance ramps from 1 to 2 lanes at: EB & WB at Cherry Ave, Citrus Ave, Cedar Ave, Riverside Ave and Mt Vernon Ave; WB at Rancho Ave; EB at 9th St	$9,240,000		2008	4M04023
SB	IC/Ramps	I-10	0.8 km e/o Etiwanda Ave OC (PM 11.6)	1.5 km w/o Riverside Ave OC (PM 19.1)	In Fontana widen exit ramps from 1 to 2 lanes at Cherry Ave, Citrus Ave, & Cedar Ave IC to accommodate proposed aux lanes at Cherry Ave IC E/B aux lane PM 11.99/12.85, W/B Aux lane PM 13.38/13.68; Citrus Ave IC E/B aux lane only PM 14.58/14.88; Cedar Ave IC E/B aux lane PM 17.36/17.83, W/B aux lane PM 18.94/19.41	$19,000,000		2009	4M04024
SB	IC/Ramps	I-10	Alabama St		Interchange	$16,000,000		2025	4M01025

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
SB	IC/Ramps	I-10	Beech Av		Interchange	$25,000,000		2012	4M01026
SB	IC/Ramps	I-10	California St		Interchange	$16,000,000		2020	4M01027
SB	IC/Ramps	I-10	Cedar Av		Interchange	$16,000,000		2020	4M01028
SB	IC/Ramps	I-10	Live Oak Canyon		Interchange	$8,000,000		2006	4M04029
SB	IC/Ramps	I-10	Mountain View Av		Interchange	$16,000,000		2020	4M01030
SB	IC/Ramps	I-10	Mt Vernon Av		Interchange	$16,000,000		2020	4M01031
SB	IC/Ramps	I-10	Wabash Av		Interchange	$16,000,000		2020	4M01032
SB	IC/Ramps	I-10	Wildwood Canyon		Interchange	$11,000,000		2020	4M04033
SB	IC/Ramps	I-15	6th Street		Interchange	$16,000,000		2025	4M01035
SB	IC/Ramps	I-15	Cajon Jn/SR-138		Interchange	$16,000,000		2020	4M01037
SB	IC/Ramps	I-15	Duncan Canyon Rd		New Interchange	$15,000,000		2012	4M01038
SB	IC/Ramps	I-15	Foothill Blvd (SR-66)		Add 400m deceleration lane on NB I-15 and widen NB off-ramp from 1 to 2 lanes	$725,000		2005	4M04054
SB	IC/Ramps	I-15	Mojave St		Interchange	$16,000,000		2020	4M01039
SB	IC/Ramps	I-15	Oak Hill Rd		Replace overcrossing	$1,000,000		2010	4M01040
SB	IC/Ramps	I-15	Sierra Av		Interchange	$16,000,000		2025	4M01041
SB	IC/Ramps	I-15	Stoddard Wells Rd		Interchange	$16,000,000		2010	4M01042
SB	IC/Ramps	I-215	Barton Road		Widen over-crossing 2-4 lanes	$1,000,000		2010	4M01043
SB	IC/Ramps	I-215	Palm Av		Interchange	$16,000,000		2025	4M01044
SB	IC/Ramps	I-215	Pepper-Linden Av		Interchange	$16,000,000		2025	4M01045
SB	IC/Ramps	I-215	University Pkwy		Interchange	$16,000,000		2020	4M01046
SB	IC/Ramps	SR-60	Central Av		Upgrade Interchange	$10,000,000		2020	4M04050
SB	IC/Ramps	SR-60	Grove Av		Interchange/Ramps	$500,000		2005	4M04051
SB	IC/Ramps	SR-30 (SR-210)	Del Rosa Av		Interchange	$16,000,000		2025	4M01047
SB	IC/Ramps	SR-30 (SR-210)	Highland Av		Interchange	$16,000,000		2025	4M01048
SB	IC/Ramps	SR-30 (SR-210)	Waterman Av		Interchange	$16,000,000		2025	4M01049
SB	IC/Ramps	I-10 and SR-60	Haven Av		Interchange Improvements	$30,000,000		2015	4M01052

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
SB	O&M	State Highway and Arterial Preservation	Countywide		State Highway and Arterial Preservation/Maintenance	$1,664,500,000		2030	4PL04
SB	Other	Project Development & Traffic Mitigation	Countywide		Project Development & Traffic Mitigation	$64,000,000		2030	4PD04
SB	Other	Southern California Logistics Airport Rail Project			Track and intermodal yard improvements (Phases 1 through 4)		$278,500,000	2030	4FR04
SB	ITS	ITS	Countywide		Intelligent Transportation Systems	$48,500,000		2030	4ITS04
SB	TDM	Rideshare	Countywide		Motorist Assistance Program	$36,000,000		2030	4RL04
SB	TDM	Non-motorized	Countywide		Non-motorized	$39,000,000		2030	4NL04
SB	TDM	TDM	Countywide		TDM (Telecommute, park and ride, etc.)	$6,500,000		2030	4TDL04
SB	Transit	San Bernardino-Redlands Extension	4th St/Mt. Vernon	Grove/Central	Extend rail service to Redlands (10 miles); rail technology TBD; 15-min. freq. daily	$60,000,000		2014	4TR0101
SB	Transit	Gold Line Extension	Claremont in Los Angeles County	Montclair in San Bernardino County	Light Rail extension (1.5 miles)	$76,000,000		2014	4TR0102
SB	Transit	Metrolink Commuter Rail	Countywide		Service Expansion; SB Line 52 daily trains, Riverside line 40 daily trains, IEOC line 28 daily trains	$464,000,000		2030	4CR04
SB	Transit	Local Transit Service	Countywide		Local Transit Service	$364,000,000		2030	4TL104
SB	Transit	Elderly & Handicapped Assistance	Countywide		Elderly & Handicapped Assistance	$137,000,000		2030	4TL204
SB	Truck Climbing	I-15	Devore	Summit	Truck Climbing Lane	$10,000,000		2010	4T01003
SB					**Total San Bernardino County**	**$5,794,305,000**	**$278,500,000**		

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
VE	Arterial	Arterial Improvements	Countywide		Misc. Arterial System Improvements - refer to separate Arterials and Grade Crossings project lists	$135,000,000		2020	5AL04
VE	Mixed Flow	SR-33 (Casitas Bypass)	Foster Park	Creek Rd	Expressway	$120,000,000		2020	5A0101
VE	Mixed Flow	SR-118	SR-232	Moorpark	Expressway	$104,000,000		2015	5A0103
VE	IC/Ramps	US-101	La Conchita	Mussel Shoals	Interchange Improvement	$17,000,000		2005	5M0104
VE	IC/Ramps	US-101	At Del Norte Blvd		Interchange improvement and 4 lane overcrossing with left turn pocket	$10,000,000	$10,000,000	2006	5M0405
VE	O&M	State Highway and Arterial Preservation	Countywide		State Highway and Arterial Preservation/Maintenance	$292,500,000		2025	5PL04
VE	ITS	ITS	Countywide		Misc. ITS Project Implementation	$80,000,000		2025	5ITS04
VE	TDM	TDM/Non-motorized	Countywide		TDM (Non-motorized, telecommute, etc.)	$30,000,000		2025	5TDL04
VE	TDM	Non-motorized	Montalvo	Los Angeles County Line	Santa Paula Branch Recreational Trail	$35,000,000		2015	5N011
VE	Transit	Transit Service Expansion	Countywide		Transit Services	$325,000,000		2025	5TL04
VE	Transit	Metrolink Commuter Rail	Ventura	Los Angeles County Line	Service Expansion	$131,000,000		2020	5CR104
VE	Transit	Tunnel 26			Rail Tunnel Reconstruction	$12,000,000	$2,000,000	2005	5CR304
VE	Transit	Metrolink Commuter Rail	Coast Main Line		Enhanced Metrolink Capital Maintenance	$45,000,000		2025	5CR204
VE					**Total Ventura County**	**$1,336,500,000**	**$12,000,000**		
REG	Maglev	Maglev	Regionwide		By 2018 - IOS (West LA to Ontario); By 2030 - Total Regional System		$29,400,000,000	2030	MAG

2004 RTP - Plan Projects

CO	Category	Route/Program	From	To	Description	Public Funding (02$)	Private/Other Funding (02$)	Completion Year	RTP ID
REG	Corridor	I-710 Corridor	Port of Long Beach/Los Angeles	SR-60	User Fee-Backed Capacity Improvement		$16,500,000,000 (includes I-710, East-West, and I-15 corridors)	2020	UFC1
REG	Corridor	East-West Corridor (I-210, SR-210, I-10, SR-60, SR-91)	I-710 Corridor	I-10/SR-60 Interchange	User Fee-Backed Capacity Improvement			2030	UFC2
REG	Corridor	I-15 Corridor	East-West Corridor	Barstow	User Fee-Backed Capacity Improvement			2030	UFC3
REG	Railroad Capacity	Regional rail capacity improvement program	Regionwide		Main line tracks and grade separation improvements		$3,400,000,000	2030	RRC
REG					**TOTAL SCAG**	**$36,183,329,000**	**$62,259,024,000**		

ATTACHMENT C

Reasonably Available Control Measure (RACM) Analysis

RACM Analysis

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, 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)
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 Legislature significantly reduced authority of AQMD 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,	Require all government employees use transit a specified number of times per week.	Yes		CTCs

RACM Analysis

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**
	expand transit, and encourage large businesses to promote transit use				
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

RACM Analysis

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		ARB, Caltrans

RACM Analysis

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		AQMD, Employer
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		AQMD, Employer
3.3*	Employer Rideshare Program Incentives	Employer rideshare incentives and introduction of strategies designed to reduce single occupant vehicle trips. Examples include: public awareness campaigns, Transportation Management Associations among employers, alternative work hours, and financial incentives.	Yes		AQMD, Employer
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		AQMD, Cities, Employer
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 treatment could include covered parking spaces or close-in spaces.	Yes		AQMD, Employer
3.6*	Employee parking fees	Encourage public and private employers to	Yes		AQMD,

* This measure relates to AQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Rule 2202 provides a menu of options for employers in choosing how they will comply with the rule. The primary implementer is the employer.

RACM Analysis

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**
		charge employees for parking.			Employer
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	The Legislature has limited authority to implement employee trip reduction measures through revisions to the Health & Safety Code (HSC 40717.6.)	
3.8*	Purchase vans for vanpools	Purchase a specified number of vans for use in employee commute travel.	Yes		AQMD, Employer
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		AQMD, Employer
3.10*	Compressed work weeks	Self explanatory.	Yes		AQMD, Employer
3.11*	Telecommuting	Goal of specified percentage of employees telecommuting at least once per week.	Yes		AQMD, Employer

* This measure relates to AQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Rule 2202 provides a menu of options for employers in choosing how they will comply with the rule. The primary implementer is the employer.

RACM Analysis

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.

RACM Analysis

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, LA City and other 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, 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, Cities
5.5	Removal of on-street parking	Require all commercial/industrial development to design and implement off-street parking.	Yes		CTCs, Cities
5.6	Reversible lanes	Implement reversible lanes on arterial streets to improve traffic flow where appropriate.	Yes		CTCs, Cities
5.7	One-way streets	Redesignate streets (or portions of in downtown areas) as one-way to improve traffic flow.	Yes		CTCs, Cities
5.8	On-Street parking restrictions	Restrict on-street parking where appropriate.	Yes		CTCs, Cities

RACM Analysis

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**
5.9	Bus pullouts in curbs for passenger loading	Provide bus pullouts in curbs, or queue jumper lanes for passenger loading and unloading.	Yes		CTCs, 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, 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 air quality emissions benefits.	
5.13	Changeable lane assignments	Increase number of one-way lanes going in congested flow direction during peak traffic hours.	Yes		Caltrans, CTCs, Cities
5.14	Adaptive traffic signals and signal timing	Self explanatory.	Yes		Counties, Cites
5.15	Freeway bottleneck improvements (add lanes, construct shoulders, etc.)	Identify key freeway bottlenecks and take accelerated action to mitigate them.	Yes		Caltrans
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		SCAG, CTCs, Caltrans, LA City
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, LA City

RACM Analysis

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**
5.19	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		SCAG, CTCs, Caltrans
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 a 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.	
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.	

RACM Analysis

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, Cities

RACM Analysis

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		CTCs, Transit Operators, SCRRA
6.2	Park-and-ride lots serving perimeter counties	Specific to a locality.	Yes		CTCs, Transit Operators, SCRRA

RACM Analysis

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 to encourage walking/bicycling to school	Decrease vehicle emissions due to 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.	
7.5	Area-wide tax for parking	Reduce driving by limiting parking through pricing measures.	Yes		Counties, L.A. City, and Other Cities
7.6	Increase parking fees	Reduce driving by limiting parking through pricing measures.	No	Attorney General ruled AQMD lacks authority to implement this measure.	
7.7	Graduated pricing starting with highest in Central Business District	Charge the most for parking in the central business or other high volume areas in a city to discourage vehicle travel in these areas.	Yes		Market Driven

RACM Analysis

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**
7.8	Buy parking lots and convert to other land use	Limit parking by converting available parking to other land uses to discourage driving.	Yes		Cities
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. This is currently not the case.	
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).	
7.11	Auto restricted zones	No vehicles allowed in certain areas where high emissions, congestion or contribution to ozone problems.	Yes		Cities
7.12	Incentives to increase density around transit centers	Lower travel by increasing residential and commercial density in areas near transit.	Yes		Cities

RACM Analysis

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 development that contributes to air quality goals.	Yes		ARB, AQMD,SCAG
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.	
7.15	Trip reduction oriented development	Land use decisions that encourage trip reductions.	Yes		SCAG
7.16	Transit oriented development	Land use decisions that encourage walkable communities and multi-modal transit systems.	Yes		SCAG
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		SCAG

RACM Analysis

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		AQMD, 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, SCAG
8.3*	Preferential parking for carpoolers	Provide free, covered, near-building or similar incentives to carpoolers.	Yes		AQMD, Employer
8.4*	Credits and incentives for carpoolers	Self-explanatory – form depends on locality.	Yes		AQMD, 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		AQMD, 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, Employer
8.7	School car pools	Self explanatory.	No	Not economically feasible and insufficient resources available for implementation.	
8.8*	Guaranteed ride home	Self explanatory.	Yes		AQMD, Employer

* This measure relates to AQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Rule 2202 provides a menu of options for employers in choosing how they will comply with the rule. The primary implementer is the employer.

RACM Analysis

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		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. Promotion of pedestrian travel could be included in air pollution.	Yes		CTCs, Cities
9.3	Bicycle/Pedestrian Program	Fund high priority projects in countywide plans consistent with funding availability.	Yes		CTCs, 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		Cities
9.5	Encouragement of 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, Cities

RACM Analysis

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					
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	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		AQMD, Employer
9.8	Close streets for special events for use by bikes and pedestrians	Self Explanatory.	Yes		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.	

* This measure relates to AQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Rule 2202 provides a menu of options for employers in choosing how they will comply with the rule. The primary implementer is the employer.

RACM Analysis

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		AQMD, 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 bike parking	Bike Transit Centers	Yes		CTCs
10.4	Development of 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	Create bicycle and pedestrian master plan and build out at an accelerated rate to achieve benefits in time for attainment deadline.	Yes		SCAG
10.6	Provide bike/pedestrian facilities safety patrols	Self Explanatory.	Yes		Counties, Cities
10.7	Inclusion of bicycle lanes on thoroughfare projects	Self Explanatory.	Yes		State, Counties, Cities
10.8	Bicycle lanes on arterial and frontage roads	Self Explanatory.	Yes		State, Counties, Cities
10.9	Bicycle route lighting	Self Explanatory.	Yes		State, Counties, Cities

* This measure relates to AQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Rule 2202 provides a menu of options for employers in choosing how they will comply with the rule. The primary implementer is the employer.

RACM Analysis

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 AQMD 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.	
11.2	Encourage limitations on vehicle idling	Encourage limitations to limit extended idling operations.	Yes		ARB
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 air quality emissions benefits.	
11.4	Outlaw idling in parking lots	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.	
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 air quality emissions benefits. This measure is not economically feasible.	

RACM Analysis

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**
11.6	Promote use of pony engines	Use special battery engines to keep air conditioning and other truck systems working while truck not in use.	Yes		ARB, AQMD
11.7	Idle restrictions at airport curbsides	Police enforced.	Yes		Airport authority

RACM Analysis

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

RACM Analysis

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		AQMD, 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		AQMD, Employer
13.3*	Telecommunications-Telecommuting/Teleconferencing	Encourage the use of telecommuting-telecommuting/teleconferencing in place of motor vehicle use where appropriate.	Yes		AQMD, Employer

* This measure relates to AQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Rule 2202 provides a menu of options for employers in choosing how they will comply with the rule. The primary implementer is the employer.

RACM Analysis

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		AQMD
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. The definition of "special event center" could be developed through the rule development process.	Yes		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		ARB, SCAG, AQMD, 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		SCAG, CTCs
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		AQMD, SCAG, Counties, Cities

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

RACM Analysis

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					
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
14.7	Incentives to increase density around transit centers	Lower travel by increasing residential and commercial density in areas near transit.	Yes		SCAG, CTCs
14.8	Incentives for cities with good development practices	Provide financial or other incentive to local cities that practice air quality-sensitive development.	Yes		Counties, Cities
14.9	Increase state gas tax	Self Explanatory.	No	No clear demonstration of air quality emissions benefits.	

RACM Analysis

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*	Encouragement of pedestrian travel	Promote public awareness and use of walking as an alternative to the motor vehicle.	Yes		AQMD, SCAG, CTCs, Employer
15.2	Pedestrian and bicycle overpasses where safety dictates	Ongoing implementation as development occurs.	Yes		Counties, Cities

* This measure relates to AQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. Rule 2202 provides a menu of options for employers in choosing how they will comply with the rule. The primary implementer is the employer.

RACM Analysis

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	Counties assess ten-dollar license plate fee to fund repair/replacement program for high-emitters.	Yes		ARB, BAR
16.2	Buy vehicles older than 1975	Self explanatory.	Yes		ARB, AQMD
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		ARB, AQMD

ATTACHMENT D

Goods Movement Control Measures

Subsequent to the Regional Council action in May on the 2007 South Coast AQMP, SCAG's transportation partners raised concerns regarding the two proposed goods movement control measures included in SCAG's portion of the AQMP. In light of these discussions, SCAG staff requested that the AQMD Governing Board delay action on the measures when it considered the AQMP at its June 1, 2007 public hearing until its next meeting on July 13, 2007.

Since the AQMD Governing Board hearing and SCAG's Regional Council and Policy Committee meetings in June, SCAG staff has initiated further consultation with the County Transportation Commissions to review the proposed measures. Based on these discussions, staff has concluded that there is need to continue consultation on the proposed goods movement control measures and requested hat the AQMD Governing Board not take action on the two measures at its July 13, 2007, public hearing.

SCAG will continue its efforts to bring the goods movement measures forward such that they can be considered for inclusion in the SIP.

HIGH-SPEED TRANSPORT SYSTEM

SOURCE CATEGORY:	LOCOMOTIVES (FREIGHT)	
CONTROL METHODS:	ALTERNATIVE TECHNOLOGY, HIGH SPEED TRANSPORT SYSTEM	
EMISSIONS (TONS/DAY):		
SUMMER PLANNING	**2014**	**2023**
NOx INVENTORY	18	23
NOx REDUCTION	18	23
NOx REMAINING	0.0	0.0
CONTROL COST:	Based on partially self-financing business plan and public/private partnership	
IMPLEMENTING AGENCIES:	Consortium under jurisdiction of Joint Powers Authority	

DESCRIPTION OF SOURCE CATEGORY

Diesel-electric locomotives have a large diesel engine (main traction engine) for generating electric power which in turn drives electric motors in each axle. Modern line-haul or freight locomotives have 4400-horsepower diesel engines with six drive axles. Switch locomotives are smaller, and usually older, four-axle locomotives, with 1200-2500 horsepower engines.

PROPOSED METHOD OF CONTROL

This control measure envisions moving cargo from the San Pedro Bay Ports to an inland port facility. Goods would be shuttled from the Ports to an inland port at San Bernardino and/or Palmdale via a zero-emissions high speed transport (HST) system (see section on Innovative Goods Movement Technology in main volume of Appendix IV-C). Such a system capitalizes on the inherent savings of multiple uses on a single infrastructure by operating on shared alignments with a people movement system. The technology permits operation of freight vehicles on a shared guide-way with passenger vehicles even during peak hour service. Freight vehicle trips can be interspersed with passenger trips while still meeting required passenger vehicle headways. Additionally, full utilization of the freight line can be achieved during the passenger system's off-peak hours.

A map depicting a preliminary HST network is shown in the goods movement section of Appendix IV-C.

EMISSION REDUCTION

The preliminary emission reduction estimates are based on replacing 100% of the freight locomotives with a zero-emission system, including a high speed transport system. The preliminary emission reduction estimates do not account for emissions associated with the incremental increase in electricity generation which may be needed.

The emission reduction commitments for AQMP control measures are discussed in Chapter 4 of the main volume of the AQMP. It is proposed that ARB take on the full legal commitment to backstop the reductions of this control measure if necessary; however, both SCAG and the AQMD have agreed to an annual review meeting to monitor the implementation of these measures and to explore additional controls that both the AQMD and SCAG can implement to backstop the original measures.

IMPLEMENTING AGENCY

Implementation of the HST system is being proposed on the basis of a potentially self-financing business plan approach based on aviation, commuter, and freight operations and further bolstered by HST system related development. A schematic of the business plan is shown in the goods movement section of Appendix IV-C. The deployment of a HST system would create value in associated components which could in turn contribute to the HST's total financial performance. A business and institutional structure for the movement of people, movement of goods, and associated development patterns has been developed by SCAG to serve as the basis for implementation of the movement systems. The results reached by SCAG's business planning effort indicate that HST-based systems for aviation, goods, and people movement can fulfill the objective of financial independence and feasibility.

A consortium under jurisdiction of Joint Powers Authority would be necessary to implement this control measure.

TRUCK-ONLY LANES

SOURCE CATEGORY:	ON-ROAD HEAVY-DUTY DIESEL FREIGHT TRUCKS	
CONTROL METHODS:	PORT TRUCKS: TRUCK-ONLY LANES; TWO CONTAINERS PER TRACTOR	
EMISSIONS (TONS/DAY):		
SUMMER PLANNING	**2014**	**2023**
NOx INVENTORY	18	15
NOx REDUCTION *	9.0	7.5
NOx REMAINING	9.0	7.5
CONTROL COST:	Based on partially self-financing business plan and public/private partnership	
IMPLEMENTING AGENCIES	Consortium under jurisdiction of Joint Powers Authority	

* The estimated emission reductions do not account for potential emission benefits of any heavy duty-diesel truck control measures proposed by the San Pedro Bay Ports, the ARB, or AQMD.

DESCRIPTION OF SOURCE CATEGORY

Emissions from heavy-duty diesel mobile sources continue to represent a significant and increasing portion of the emissions inventory in the South Coast Air Basin, adversely effecting regional air quality. The two primary pollutants resulting from diesel fuel combustion are particulate matter (PM) and oxides of nitrogen (NOx). PM typically constitutes the visible emissions from diesel engine exhaust, and it contains over 40 known cancer-causing substances.

PROPOSED METHOD OF CONTROL

This control measure envisions a regional truckway system comprising 142 center-line miles of dedicated truck lanes extending from the San Pedro Bay ports eastward toward Barstow. The dedicated truckway offers a viable and partially self-financing solution for mitigating congestion and reducing mobile source emissions. The system would have a graduated toll rate based on a number of factors including the relative emissions associated with each vehicle. The truck-only lane would potentially allow each truck to carry multiple containers, further improving the efficiency and financial viability of the system. The potential for requiring all trucks to use alternative clean technology or otherwise meet the 2010 on-road heavy-duty exhaust emissions standards is also being considered.

EMISSION REDUCTION

The preliminary emission reduction estimates are based on 100% of the port trucks using the truck-only lane and each tractor hauling two containers.

The emission reductions do not account for potential emission benefits of reduced regional congestion or of any control measures proposed by the San Pedro Bay Ports, the ARB, or AQMD.

The emission reduction commitments for AQMP control measures are discussed in Chapter 4 of the main volume of the AQMP. It is proposed that ARB take on the full legal commitment to backstop the reductions of this control measure if necessary; however, both SCAG and the AQMD have agreed to an annual review meeting to monitor the implementation of these measures and to explore additional controls that both the AQMD and SCAG can implement to backstop the original measures.

IMPLEMENTING AGENCY

A consortium under jurisdiction of Joint Powers Authority would be necessary to implement this control measure.