CHAPTER 2
Project Description

Background and Location

This PEIR evaluates the potential environmental impacts associated with the adoption of the 2008 RTP by the Southern California Association of Governments (SCAG). This document has been prepared to meet the requirements of the California Environmental Quality Act (CEQA) statutes (Public Resources Code §21000 et seq.) and CEQA Guidelines (14 California Code of Regulations, §15000 et seq.).

SCAG is the federally designated Metropolitan Planning Organization (MPO) under Title 23, United States Code (USC) 134(d)(1) for the six county region which includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. These counties are shown in **Map 2-1**. As an MPO, SCAG is required to adopt and periodically update a long-range transportation plan.

The SCAG region also contains 14 subregions as shown in **Map 2-2**. The total area of the region is approximately 38,000 square miles and stretches from the state borders of California/Nevada and California/Arizona to the Pacific Ocean and from the southernmost edge of the Central Valley to the Mexican border. The region includes the county with the largest land area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County. This vast region includes nearly 25 million acres of which approximately 2.1 million acres are developed land, nearly 20 million acres are vacant, and the balance is agriculture, open space, recreation and other uses. The region is home to a population of nearly 19 million people and is expected to grow to 24 million by 2035[1].

The SCAG region encompasses several federally designated non-attainment and maintenance areas for air quality standards. The U. S. Department of Transportation, Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) under Section 176(c) of the Federal Clean Air Act [42 USC 7506(c)] require that a non-attainment area submit a regional transportation plan every four years. The 2008 RTP is the quadrennial update to the RTP that was last adopted in April 2004. All RTPs must conform to air quality requirements as well as meet a number of other requirements, including specific requirements on the "horizon" year of regional transportation plans (the horizon year must be at least 20 years in to the future). In order to comply with those requirements the 2008 RTP includes a horizon year of 2035. In order to

[1] Southern California Association of Governments, 2008 population projections.

continue receiving federal transportation funds for projects other than the projects included in the Regional Transportation Improvement Program (RTIP), the SCAG region must have a conforming RTP in place by June 2008.

SCAG is also required to prepare a regional transportation plan under Section 65080 of the California Government Code. The state requirements largely mirror the federal requirements and require each Regional Transportation Planning Agency (RTPA) in urban areas to adopt and submit an updated RTP to the California Transportation Commission and the Department of Transportation (Caltrans) every four years. To ensure a degree of statewide consistency in the development of RTPs, the Commission under Government Code Section 14522 prepared RTP Guidelines. The adopted guidelines include a requirement for program level performance measures, which include objective criteria that reflect the goals and objectives of the RTP. In addition, the first four years of the plan must be consistent with the four-year State Transportation Improvement Program (STIP). California law views the STIP as a resource management document which provides each county and each region the opportunity to declare their intent to use available state and federal funds in a timely and cost-effective manner. The STIP must cover a period of four years, beginning July 1, and must include projects that are expected to receive funds prior to July 1 of the year of adoption.

Prior to adopting the 2008 RTP, SCAG's Regional Council must certify the PEIR for the Plan. Local and state transportation agencies will use the 2008 RTP and the PEIR as a reference for their own planning purposes.

The 2008 RTP is a long-range regional transportation plan that provides a blueprint for future transportation improvements based on specific transportation goals, objectives, policies and strategies. The plan includes the management of existing and proposed transportation systems and travel demand. Many projects from the 2004 RTP are included in the 2008 RTP as well as new transportation improvements. Some transportation projects from the 2004 RTP are now considered committed or at least reasonably foreseeable (i.e., they are in the RTIP and are thus included in the No Project condition).

The 2008 RTP is intended to meet the changing socioeconomic, transportation infrastructure, financial, technological and environmental conditions of the region. Individual projects are preliminarily identified in the 2008 RTP; however, this PEIR is programmatic in nature and does not specifically analyze these projects. Project-level analyses will be prepared by implementing agencies on a project-by-project basis. Project specific planning and implementation undertaken by each implementing agency will depend on a number of issues, including: policies, programs and projects adopted at the local level; restrictions on federal, state and local transportation funds; the results of feasibility studies for particular corridors; and further environmental review of proposed projects.

Purpose and Need for Action

The purpose of the 2008 RTP is to provide a clear, long term vision of the regional transportation goals, policies, objectives and strategies for the SCAG region. The Plan provides an assessment of current and projected demand for travel and goods movement in the region, and includes actions to meet the region's mobility and accessibility needs. These actions must be within fiscal constraints and should promote consistency and coordination among state, regional, and local transportation plans. The development of the Plan provides an integrated inclusive and flexible process to help foster regional consensus on the social, economic and environmental issues related to transportation planning in the SCAG region.

The need for the 2008 RTP arises from state and federal requirements and from the need for improvements to the regional transportation system. The need is driven by population growth and the need to maintain and preserve an aging existing transportation system to preserve its long term viability.

Over the next 25 years, SCAG forecasts that there will be an additional 5.14 million people (based on 2008 population estimates) added to this large and diversifying area. The 2008 RTP is based on growth forecasts in the region in 2035 as shown in **Table 2-1**.

TABLE 2-1
2035 POPULATION, HOUSEHOLDS, AND EMPLOYMENT IN THE SCAG REGION

	2035 Population		2035 Households		2035 Employment	
County	**No Project**	**Plan**	**No Project**	**Plan**	**No Project**	**Plan**
Imperial	320,446	314,104	103,000	101,000	133,000	132,000
Los Angeles	12,337,576	12,588,277	4,003,000	4,087,000	5,041,000	5,091,000
Orange	3,653,988	3,699,211	1,118,000	1,134,000	1,982,000	1,991,000
Riverside	3,596,681	3,472,034	1,183,000	1,142,000	1,414,000	1,387,000
San Bernardino	3,133,799	2,957,370	973,000	914,000	1,255,000	1,220,000
Ventura	1,013,756	1,025,250	330,000	334,000	463,000	466,000
SCAG Region	24,056,246	24,056,246	7,710,000	7,710,000	10,287,000	10,287,000

SOURCE: Southern California Association of Governments, 2008 Population Growth Estimates.

Federal Guidelines (40 CFR §1502.13) require the preparation of a statement of purpose and need in conjunction with environmental documents prepared to meet the requirements of the National Environmental Policy Act (NEPA). In accordance with these guidelines, these statements are prepared to briefly specify the underlying purpose of the project and the need for the project to which the lead agency is responding in proposing actions and/or alternatives. Although adoption of the 2008 RTP is not subject to NEPA, SCAG has chosen to include this statement of purpose and need to enable proponents of specific projects included in the 2008

RTP to discuss the purpose and need for their individual projects in terms of the project's relationship to the Plan.

This statement of purpose and need has been prepared to identify the underlying purpose for adopting the 2008 RTP. This statement was not prepared to be a comprehensive statement of need for each individual RTP project. Where appropriate, this statement of need may be incorporated by reference in project-specific NEPA documents as provided in 40 CFR §1502.21.

The transportation planning process for the 2008 RTP is continuous as the region is constantly undergoing change. The 2008 RTP presents an assessment of the growth and economic trends in the SCAG region for the years 2003 (the RTP baseline) through 2035 and provides strategic direction for investments during this period. In order to update the Plan for the region, adjustments were required to the regional growth forecast, the airport strategy, the revenue forecast and the plans and programs as well as the incorporation of SCAG's ongoing Compass Blueprint Growth Vision process.

Proposed Action

SCAG is the federally designated MPO under Title 23, USC 134(g)(1), for the six-county region. SCAG is required by state and federal mandates to prepare an RTP every four years.

The 2008 RTP is a long-range regional transportation plan that provides a blueprint to help achieve a coordinated and balanced regional transportation system. Transportation projects in the SCAG region must be consistent with the RTP in order to receive federal funding. The 2008 RTP includes a policy element with goals, policies, and performance indicators, an action element that identifies projects, programs and implementation. In addition the RTP includes a description of regional growth trends to help identify future needs for travel and goods movement. The 2008 RTP consists of two sections: a financially constrained plan and a strategic plan. While the constrained plan includes projects that have committed, available, or reasonably available revenue sources, the strategic plan identifies additional projects that require study and consensus building before the decision can be made as to whether to commit the funding to include these projects in a future RTP's constrained plan.

In addition to the financially constrained projects in the 2008 RTP, there are a number of "strategic projects." These are projects for which funding sources have not been identified, but the implementation of which would provide transportation and air quality benefit to the region. These projects include a number of High Speed Regional Transport (HSRT) segments, and user supported (i.e., toll) dedicated truck lanes. This EIR does not analyze these strategic projects because their funding and therefore implementation is speculative at this point. In general these projects would improve transportation-related performance in the region and reduce certain types of air emissions. Many of the segments would have environmental impacts along their routes (similar to impacts discussed for RTP projects) as they may pass through environmentally sensitive areas. If these projects become reasonably foreseeable their impacts will be addressed in future RTPs and associated PEIRs.

Policy Element

The goals of the 2008 RTP have expanded from 2004 to encompass transportation security. These goals reflect the requirements of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The goals are provided in no particular order.

TABLE 2-2
RTP GOALS

RTP Goals
Maximize mobility and accessibility for all people and goods in the region
Ensure travel safety and reliability for all people and goods in the region
Preserve and ensure a sustainable regional transportation system
Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies
Maximize the productivity of our transportation system
Protect the environment, improve air quality and promote energy efficiency
Encourage land use and growth patterns that complement our transportation investments

SOURCE: Southern California Association of Governments, 2008 Regional Transportation Plan

The goals demonstrate the need to balance many priorities in a cost-effective manner. These priorities are identified in the RTP as follows:

- The region's vast investments in multi-modal transportation infrastructure must be protected. This infrastructure is maturing and requires attention and maintenance. The region cannot afford to replace the existing infrastructure and must protect it for future generations.
- A maturing system dictates an increased operational focus that leverages technology to maximize the system's productivity. This same investment will also increase reliability by minimizing the variation of travel time due to incidents, weather and other factors. The region cannot expand the transportation system significantly, so the existing system must be utilized to its fullest. The viability of the region's economy is inextricably linked to efficient and reliable transportation. The region must be able to respond to and recover from major human caused or natural events in order to minimize the threat and impact to lives, property, the transportation network and the regional economy.
- Air quality for the region's residents must be improved and meet federal regulations. Not doing so would undermine the health of our population and risk losing billions of federal funding to the region.
- The investments in the RTP must address travel safety and modal balance; recognize the importance of providing safe travel choices; meet the needs of the transit dependent and the goods movement community; and provide connections among the highway system, ports, and airports.

- The RTP must also integrate land use policies as a means to influence transportation performance and the economy. Without such integration, transportation needs in the future will significantly outpace the ability to pay for them.
- The RTP must address all these priorities in the most cost–effective manner so that outcomes/benefits can be maximized and so that users get the most for their expenditures.

SCAG's Regional Council adopted five policies to guide the development of the RTP (**Table 2-3**). These policies, unchanged since 2004 when the previous RTP was prepared by SCAG, emphasize the importance of tracking the Plans' performance through specific indicators.

TABLE 2-3
RTP POLICIES

1	Transportation investments shall be based on SCAG's adopted Regional Performance Indicators.
2	Ensuring safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system will be RTP priorities and will be balanced against the need for system expansion investments.
3	RTP land-use and growth strategies that differ from currently expected trends will require a collaborative implementation program that identifies required actions and policies by all affected agencies and subregions.
4	HOV gap closures that significantly increase transit and rideshare usage will be supported and encouraged, subject to Policy #1.
5	Progress monitoring on all aspects of the Plan, including timely implementation of projects, programs, and strategies, will be an important and integral component of the Plan.

SOURCE: Southern California Association of Governments, 2008 Regional Transportation Plan

Performance Measures

As directed by the first RTP policy, performance measures play a critical role in the development of the 2008 RTP. Performance measures quantify the outcomes that are important to individuals, businesses, and the region. They quantify regional goals and provide a way to evaluate progress over time. This is SCAG's fourth performance-based RTP. The performance measures for the 2008 RTP represent an evolution that builds on earlier successes and adds specificity and technical depth to the original measures.

Performance measures are closely tied to the broader goals to ensure that the implementation of the RTP moves the region closer to achieving these goals. **Table 2-4** depicts the relationship between the RTP goals and performance measures while **Table 2-5** described the performance measures in greater detail.

Transportation Strategies

The programs, projects and implementation actions of the 2008 RTP focus on system management, transportation demand management, strategic expansion and the land use transportation connection.

Transportation Safety

The 2008 RTP details ten measures that SCAG, as a planning agency, will undertake to enhance the region's ability to achieve and sustain at risk target levels of capability to prevent, protect against, respond to and recover from major human caused or natural events in order to minimize the threat and impact to lives, property and the region. The 2008 RTP commits $10 billion for safety related projects and services. Furthermore, in 2005, SAFETEA-LU required that each state develop a Strategic Highway Safety Plan; the 2008 RTP is consistent with that plan as required by federal law.

System Monitoring and Evaluation

System monitoring is the foundation of the transportation system and plays a large part in the 2008 RTP. As discussed above, SCAG has developed performance measures to track and monitor the progress of the transportation system so that the region can make informed decisions regarding transportation investments. For example, the Freeway Performance Measurement System (PeMS), developed by UC Berkeley, Caltrans, and the California Partners for Advanced Transit and Highways (PATH), has the ability to measure freeway speeds, delay, and reliability for the regional freeway system. Additionally, transportation professionals and decision-makers have recently committed to improving the region's ability to properly fund the investments needed to comprehensively monitor and evaluate system performance. These investments include detection, closed circuit television systems, bus global positioning systems, and automatic ridership counting systems. Although funding is modest for these activities, they lead to more informed decisions.

Maintenance and Preservation

Over the decades, the region has invested hundreds of billions of dollars in a multimodal transportation system. Preserving these assets is a critical priority, especially as preservation needs have been historically underfunded. On top of existing funding for preservation and maintenance, the region's highway system needs an additional $30 billion through 2035, and the arterial and transit system needs another $10 billion. The 2008 RTP commits $8 billion of new funding to preservation.

Integrated Land Use and Demand Management

Integrated Land Use

With the growing population, transportation infrastructure planning and technological innovation are essential to improving air quality. However, these strategies alone will not be enough to curb congestion and mitigate air quality impacts. Through the integration of land use planning and transportation infrastructure investments, land use strategies can encourage development patterns that increase transportation options and the use of alternate modes of travel to reduce vehicle miles traveled.

TABLE 2-4
RTP GOALS AND RELATED PERFORMANCE MEASURES

	Mobility	Accessibility	Reliability	Productivity	Safety	Sustainability	Preservation	Cost-Effectiveness	Environmental	Environmental Justice
RTP Goals										
Maximize mobility and accessibility for all people and goods in the region	x	x						x		x
Ensure travel safety and reliability for all people and goods in the region	x		x		x					
Preserve and ensure a sustainable regional transportation system						x	x		x	x
Maximize the productivity of our transportation system	x			x						
Protect the environment, improve air quality and promote energy efficiency						x			x	x
Encourage land use and growth patterns that complement our transportation investments and improves the cost-effectiveness of expenditures	x	x							x	
Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies*										

SOURCE: SCAG does not yet have an agreed-upon security performance measure, therefore it is not included in this table.

TABLE 2-5
PERFORMANCE MEASURES

Performance Measure	Measure(s)	Definition	Performance Target	Calculation Data Sources
Mobility	Speed. Delay.	Speed – experienced by travelers regardless of mode. Delay - excess travel time resulting from the difference between a reference speed and actual speed. Delay per capita can be used as a supplemental measure to account for population growth impacts on delay.	Improvement over Base Year	Travel demand model outputs. AM Peak, PM Peak, Off-peak, Daily Link speeds, travel times, trips
Accessibility	Percent PM peak period work trips within 45 minutes of home. Distribution of work trip travel times.		Improvement over Base Year	Travel demand model outputs. PM Peak, OD Travel Times, OD Person Trips
Reliability	Percent variation in travel time	Day-to-day change in travel times experienced by travelers. Variability results from accidents, weather, road closures, system problems and other non-recurrent conditions.	Improvement over Base Year	Highways – PeMS. Transit - National Transit Database or triennial audit reports.
Productivity	Percent capacity utilized during peak conditions	Transportation infrastructure capacity and services provided. Roadway Capacity - vehicles per hour per lane by type of facility. Transit Capacity - seating capacity by mode.	Improvement over Base Year	Highways – PeMS. Transit - National Transit Database or triennial audit reports.
Safety	Accident rates	Measured in accidents per million vehicle miles by mode for: Fatalities, Injuries, Property	"0" for all accident types and modes	Highways – freeway accident rates from Caltrans. Transit - National Transit Database or triennial audit reports.
Sustainability	Total cost per capita to sustain system performance at Base Year levels	Focus is on overall performance, including infrastructure condition. Preservation measure is a subset of sustainability.	Improvement over Base Year	Sub-regional submittals. Regional Population forecast.
Preservation	Maintenance cost per capita to preserve system at Base Year conditions.	Focus is on infrastructure condition. Subset of sustainability	Improvement over Base Year	Sub-regional submittals. Regional Population forecast.

TABLE 2-5 (Continued)
PERFORMANCE MEASURES

Performance Measure	Measure(s)	Definition	Performance Target	Calculation Data Sources
Cost Effectiveness	Benefit to Cost (B/C) Ratio	Ratio of benefits of travel alternatives to the costs of travel including infrastructure, maintenance, travel time, environmental, accident, and vehicle operating costs. This can be used to evaluate impacts of mode split changes resulting from RTP investments.	Improvement over Base Year	Travel demand model outputs. Revenue forecasts. RTP project expenditures. Other cost estimates.
Environmental	Emissions generated by travel	Measured/forecast emissions include CO, NOX, PM2.5, PM10, SOX, and VOC. CO2 as secondary measure to reflect greenhouse gas emissions.	Meet SIP Emission Budgets & Transportation Conformity requirements	Travel demand model outputs. EMFAC2007
Environmental Justice	Distribution of benefits and costs: Accessibility, Environmental, Emissions, Noise.	Share of net benefits and costs by mode, household income, race/ethnicity: RTP expenditures, taxes paid (e.g. income, sales & use, gas), Access to jobs (see "Accessibility"), travel time savings by mode, Environmental impacts from PEIR	Equitable distribution of benefits and costs	Travel demand model outputs. Revenue forecasts. RTP project expenditures. PEIR

SOURCE: Southern California Association of Governments, 2008 Regional Transportation Plan

Using an integrated forecasting approach and a consensus-built growth visioning process, SCAG developed growth policies that shape the 2008 RTP Policy Growth Alternative (i.e., the preferred growth alternative) in order to influence development patterns that reduce driving. The growth assumptions, vision, and policies were all developed in coordination with technical analyses, local input, land use and growth experts, and on-the-ground "reality checks." The resulting 2008 RTP growth projections indicate that modified growth patterns based on these policies show a direct positive impact on air quality in the region. SCAG's Compass Blueprint Growth Vision, in addition to legislative efforts, shapes the implementation program for enacting these policies and programs through partnerships with and services offered to cities, counties, subregions and county transportation commissions to ensure these positive effects on air quality.

Compass Blueprint Growth Vision

SCAG's Compass Blueprint Growth Vision, one of the first large-scale regional growth visioning efforts in the nation, seeks to integrate land use and transportation with the goal of accommodating approximately 5.14 million additional residents between 2008 and 2035, while improving mobility for all residents, fostering livability in all communities, enabling prosperity for all people, and promoting sustainability for future generations. Developed in close collaboration with cities throughout the region, the policies of the Vision are:

- Identify regional strategic areas for infill and investment
- Structure the plan on a three-tiered system of centers development
- Develop "complete communities"
- Develop nodes on a corridor
- Plan for additional housing and jobs near transit
- Plan for a changing demand in types of housing
- Continue to protect stable existing single-family areas
- Ensure adequate access to open space and preservation of habitat
- Incorporate local input and feedback on future growth

The policies at the foundation of the 2008 RTP encourage changes to the urban form that improve accessibility to transit, and create more compact development, thereby yielding a number of transportation benefits to the region. These include reductions in travel time, vehicle miles traveled, vehicle hours traveled, and vehicle hours of delay. Concurrently, the plan yielded increased transit use and mode share, and all of these effects lead to both mobility and air quality improvements.

Mobility Benefits of Land Use

SCAG prepared two growth forecasts in preparation of the 2008 RTP, a "baseline" growth forecast that does not include land use strategies and a "policy growth alternative" (used in the

Plan). The comparison of the transportation modeling results between the "baseline growth alternative" and the "policy growth forecast" isolates the transportation benefits due to regional land use policy. The following charts illustrate that the regional land use strategy of focusing development in existing and emerging centers, along transportation corridors, promoting transit-oriented and mixed use development and improving regional jobs-housing balance results in significant mobility benefits.

Compared to the "baseline" growth forecast, the adopted land use strategy reduces travel by more than 20 million vehicle miles traveled (VMT) per day (**Figure 2-1**), eliminates about 0.9 million hours of travel per day (**Figure 2-2**) and reduces daily congestion delay by 0.5 million hours (**Figure 2-3)**.

The 2008 RTP is built on the understanding that development, planned synergistically with the transportation system, can have a dramatic effect on travel behavior and VMT. The transportation modeling summarized above is consistent with this concept.

Additional analysis found that a simple proxy, such as residential density, land-use diversity and urban design, shows a very strong relationship with travel propensity. Specifically, commuting accounts for about 25 percent of household VMT, indicating that non-work travel is the primary source of household VMT. With a relationship that is closely tied to land-use, SCAG sought to quantify the characteristics of the environment to explain why travel behavior may differ in an urban versus a suburban setting. Recent research on the topic proposes a framework consisting of the three "Ds" – Density, Diversity and Design.

Density – the general concentration and proximity of activities, applied to both residential or employment density.

Diversity – the degree to which different land use effects are intermingled or "mixed" as well as the balance of that mix.

Design – the packaging of density and diversity, in terms of attractiveness, functionality and connectivity for pedestrians.

SCAG incorporated a fourth "D," regional transit accessibility, originally used in the Environmental Protection Agency Smart Growth Index (SGI) Model. This measure of the relationship between travel behavior and land use is critical given the 2008 RTP's focus of future development in activity centers, around new and existing transit stations and in nodes along corridors.

These variables were not specifically accounted for within the transportation and air quality modeling of individual TAZ (Traffic Analysis Zones). Since the SCAG regional model is insensitive to land use features below the aggregation level of the TAZ the "4D" model was used to estimate the incremental benefit attributable to local land use. This process concluded that the "4D" model is capable of yielding an additional reduction of 8.6 million daily VMT region-wide in addition to the 19 million daily VMT reduction modeled by SCAG.

FIGURE 2-1
DAILY VMT WITH AND WITHOUT LAND USE STRATEGY

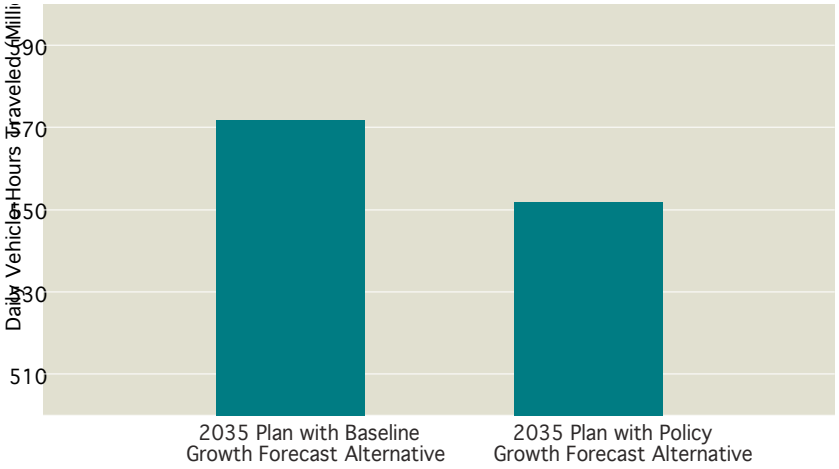


FIGURE 2-2
DAILY VHT WITH AND WITHOUT LAND USE STRATEGY

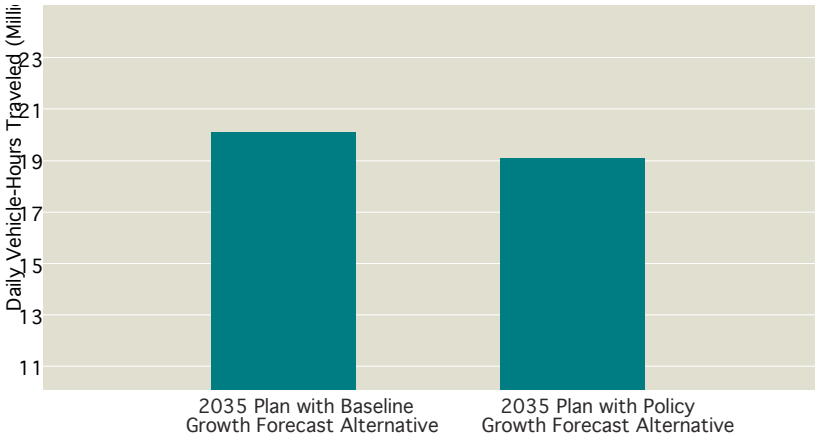
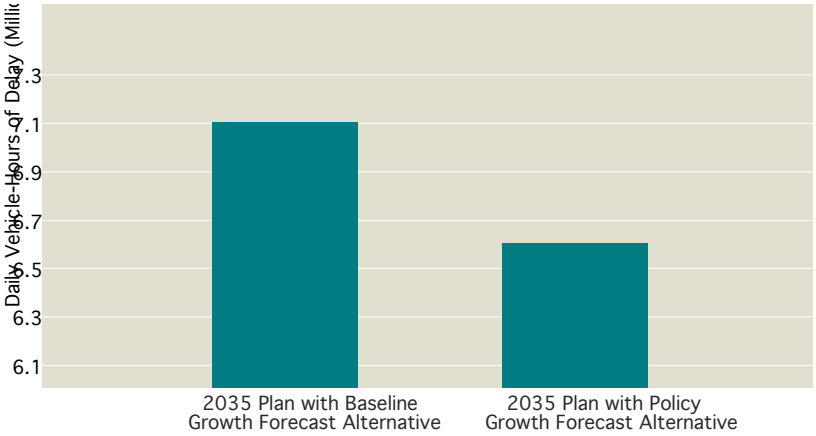


FIGURE 2-3
DAILY DELAY WITH AND WITHOUT LAND USE STRATEGY



Although this analysis and its benefits have not been incorporated into the 2008 RTP performance results, SCAG will continue to work with local state and federal stakeholders to further develop the "4D" approach and document its benefits for use in subsequent regional transportation plans. Additional information can be found in Appendix C of the 2008 RTP.

Travel Demand Management (TDM)

In an effort to address travel demand, TDM strategies are designed to influence an individual's travel behavior by making alternatives to the single-occupant automobile more attractive, especially during peak commute periods, or by enacting regulatory strategies. Some examples of TDM strategies are carpools and vanpools, public transit, non-motorized modes, congestion pricing, and providing the public with reliable and timely traveler information. In total, the 2008 RTP dedicates $2.2 billion to TDM investments.

Increasing Rideshare (Carpool and Vanpool)

The SCAG region continues to invest heavily in High Occupancy Vehicle (HOV) infrastructure that provides incentives for commuters to share rides with others. While HOV utilization is growing over time, the percent of total travelers using carpools and vanpools is not. SCAG and its partners will strengthen their efforts to encourage this efficient mode of travel.

Increasing Work-at-Home

Increasing the number of workers who work-at-home (self-employed, home-based business owners) or who telework/telecommute (wage and salary employees conducting some or all of their work from home) decreases home-based work trips, vehicle-miles of travel, congestion, and vehicle emissions. National and regional surveys of those who telecommute indicate that it is a lack of support and trust from "management," rather than the provision of equipment or the desire of workers to telecommute, that hampers the growth of telecommuting. Therefore, the 2008 RTP recommends formalizing and expanding partnerships among public and private sector stakeholders, and to promote telecommuting to increase opportunities for workers regionally to telecommute in lieu of daily commuting.

Non-Motorized Transportation

According to the 2001 National Household Travel Survey, 50 percent of all trips made nationwide in urban areas were shorter than 3 miles, and 28 percent of all trips were less than 1 mile. These trips are ideal for biking, walking, and transit or a combination of those modes of travel.

Region-wide, however, the average commute distance to work is 19.2 miles, too far for many bicyclists and all pedestrians. However, the integration between bicycle and transit nodes offers the opportunity to extend the commuting range of bicyclists.

Bicycle and pedestrian improvements are included as part of many larger street maintenance and construction projects. These investments and the supporting policies all aim to maximize the benefits of this efficient mode of transportation. In addition, the 2008 RTP supports several

policies that aim to work with local governments and increase the safety, convenience, and attractiveness of bicycling and walking as modes of travel.

Maximizing Transportation System Productivity

Beyond managing travel demand, this region needs to invest in maximizing the productivity of the existing system and increase its efficiency. The region has built a vast and expensive transportation system, which can be tweaked and modernized to carry more people and goods in a day or during peak commute conditions. Such investments include implementing advanced traffic control strategies such as signal coordination and ramp metering, improved incident management, and smaller physical infrastructure modifications such as auxiliary lanes. The 2008 RTP allocates an additional $2 billion, representing 20 percent of the region's operations improvement shortfall.

Strategic Transit Service Policies

The 2008 RTP encourages the regional transit operators to work cooperatively to offer complementary services, with ease of transfer between modes and operators. It further encourages utilization of new intelligent transportation system (ITS) technologies that measure system performance and offers its customers reliable "on-time" performance and real-time information.

System Expansion Projects

More than half of the available transportation revenues in the region are dedicated to the completion and expansion of the region's people and goods movement transportation systems.

Highway Improvements

Major categories of highway improvements included in the 2008 RTP are HOV lanes and connectors, mixed flow (or general purpose) lanes, toll facilities and High Occupancy Toll (HOT) lanes, and strategic arterial improvements. A significant number of system expansion projects have already been committed through SCAG's RTIP for the highway network. These priority projects close critical gaps in the system, relieve significant bottlenecks, and address inter-county travel needs.

HOV Gap Closures and Connectors

Southern California has invested heavily in HOV lanes, producing one of the nation's most comprehensive HOV networks and highest rideshare rates. The 2008 RTP includes many additional investments to extend the HOV network, strategically closes gaps in the HOV network, and constructs additional direct freeway-to-freeway connectors to maximize the overall system performance by minimizing weaving conflicts and maintaining travel speeds. **Map 2-3** shows the 2035 HOV Lane System.

Mixed Flow

Since mixed flow lanes carry more traffic than any other component of our transportation system, mixed-flow capacity enhancements are also necessary to address traffic bottlenecks and relieve congestion on heavily traveled corridors. This is especially true in areas outside of the urban core where transit service and the HOV network are not fully developed. The 2008 RTP includes a variety of mixed flow lane additions, mostly outside of Los Angeles County. **Map 2-4** shows the 2035 Mixed Flow transportation system.

Toll and High Occupancy Toll (HOT) Lane Corridors and Facilities

The 2008 RTP also includes an expansion of the existing HOT lane and toll road system in Orange County to address the congested commuter corridor between housing-rich Riverside County and job-rich Orange County. Additionally, improvements to several major corridors in other parts of the region are proposed to be financed by tolls, including the I-710 Tunnel Gap Closure and the High Desert Corridor. **Map 2-5** shows the 2035 HOT lanes and tolls.

Transit Strategies

The 2008 RTP recommends closing critical gaps in the transit system to improve service, and extend routes to serve a greater number of passengers. In addition, the coordination of development in and around transit stations and corridors, improved service reliability and performance, and a highly focused transit capital investment program appear to yield the best results within the budget limitations that the region faces.

Heavy and light rail projects are planned for Los Angeles County, while Orange County focuses on several new bus rapid transit (BRT) corridors. Riverside and San Bernardino Counties are planning a mix of new rail and BRT projects. **Map 2-6** shows the 2035 transit system.

High-Speed Regional Transport

A HSRT system has the potential for relieving both airport and freeway congestion in urbanized areas by providing an alternative to the automobile as well as making less congested airports more accessible to air travelers, and providing alternative capacity for freight movement in the region. **Map 2-7** shows the 2035 HSRT system.

The HSRT system is a long-term vision to connect the region's ports, airports, and urban activity centers. The system can be constructed in multiple stages that can each be financially viable. The financial performance will be enhanced as the system is extended throughout the region and the volume of users increases. The HSRT plan is constructed in three core components: a goods movement/logistics component to connect the San Pedro Bay Ports with an inland port facility via the high-speed, high-capacity link; an aviation system component to create a direct and reliable link capable of connecting airports and urban centers; and a surface transport system component to link urban activity centers throughout the region.

Another high-speed regional transport project being studied is a magnetically levitated train between Las Vegas and Anaheim by the California-Nevada Super Speed Train Commission (CNSSTC) that would include an Anaheim-Ontario segment, which would further the airport decentralization strategy for the region. Also, the California High-Speed Rail Authority (CHSRA) is charged with planning, designing, constructing, and operating a high-speed steel wheels on steel rails train system that would connect northern and southern California. This system contains 210 miles planned in the SCAG region, including a 30-mile segment between Orange County and LA Union Station.

Aviation

SCAG's Regional Aviation Decentralization Strategy is very similar to the 2030 decentralized regional aviation system adopted for the 2004 RTP. It respects all legally-enforceable policy and physical capacity constraints at urban airports. It also assumes much more willingness on the part of the airlines to invest in new flights at new and emerging airports, and a package of market and ground access incentives to promote decentralization at under-utilized suburban airports.

Airport Ground Access

The Regional Aviation Decentralization Strategy calls for making substantial airport ground access improvements throughout the region, in both the short term and long-term. The short term program emphasizes relieving immediate bottlenecks around airports through arterial, intersection and interchange improvements, and increasing transit access to airports. To this end, SCAG is working closely with Los Angeles World Airports (LAWA) on planning and programming a regional system of FlyAways, based on the very successful Van Nuys FlyAway where passengers park their cars and take a bus to LAX. The locations of the proposed new FlyAways can be optimized by taking advantage of the region's developing HOV and light and heavy rail networks that can provide direct linkages to Ontario and Palmdale as well as LAX. Making seamless HOV and rail connections with enhanced service to those and other suburban airports will also compose SCAG's short- and medium-range airport ground access strategy. The FlyAway, HOV and rail improvements to the suburban airports will help establish a pattern of decentralization, by attracting a critical mass of passengers and airline service at those emerging airports. SCAG is also working with the newly-reactivated Southern California Regional Airport Authority (SCRAA) in it ongoing efforts to restructure and redefine its mission, with the focus of helping to implement the decentralization aviation strategy through facilitating key airport ground access improvements.

In the long run, however, the speed, reliability, and predictability of high-speed airport access will be needed to overcome the increasingly unpredictable traffic congestion. For example, the Initial Operating Segment (IOS) of the proposed HSRT system from West Los Angeles to Ontario will take only 33 minutes to travel from end to end. Therefore, the regional high-speed rail system is an integral component of the 2008 RTP Preferred 2035 regional aviation demand forecast.

Goods Movement Strategies

To enable the region to handle the dramatic growth in the goods movement sector, the 2008 RTP calls for approximately $13 billion in freight rail investments, nearly $18 billion in a freight HSRT system, and over $5 billion in highway investments. These investments integrate air quality mitigation into the goods movement system improvements, yielding substantial air quality benefits and reducing its current and long-term impacts on public health and the environment.

Dedicated Lanes for Clean Technology Trucks

Over the past several RTP updates, the region has been exploring dedicated truck-lane facilities and continues to refine the concept of user-supported corridors to improve the flow of goods. More recent efforts have focused on adding dedicated truck lanes for clean technology vehicles along truck-intensive corridors in Southern California. Operationally, such a corridor would be aligned to connect freight-intensive locations such as the Ports, warehousing/distribution center locations, and manufacturing locations. These dedicated facilities would have fewer entrance/egress locations than typical urban interstates to smooth the flow of trucks on these facilities.

Dedicated truck lanes have the potential to relieve many negative truck impacts such as recurrent delay, pavement deterioration, safety, emissions, and design deficiencies. Dedicated truck lanes would also increase reliability in the freeway system. Despite these benefits, substantial financial constraints as well as environmental impact considerations could hinder project implementation. The 2008 RTP includes the I-710 segment as the first phase of a comprehensive system that addresses truck-related issues in the region. This segment includes roughly 78 lane-miles (two lanes in each direction) of dedicated lanes for clean technology trucks along alignments extending from the Ports to the SR-60 interchange. This represents an investment of over $5 billion. A project level EIR/EIS and preliminary engineering are currently underway for the I-710. SCAG assumes the implementation of dedicated truck lanes accommodating clean technology vehicles along the I-710 corridor until a different preferred alternative is identified by the EIR/EIS.

Regional Freight Rail Investment and Emission Reduction Package

Freight rail investments consist of additional mainline capacity, grade separations, and locomotive engine upgrades. About half of the rail-related investments are for grade crossing separations, which reduce traffic congestion, improve safety, and reduce pollution. Substantial air quality benefits can be realized by accelerating fleet modernization with cleaner technologies.

Current estimates indicate that Union Pacific Railroad (UP) and Burlington Northern Santa Fe (BNSF) mainlines east of downtown Los Angeles will reach capacity before the end of the decade. As a result, they will need to be triple-tracked or even quadruple-tracked in some segments. Investments in the 2008 RTP include $3.2 billion in mainline rail capacity improvements, $6 billion to build an estimated 131 highway-rail grade separations east of downtown Los Angeles, and a total of $3.8 billion for accelerating upgrades to cleaner diesel

locomotive engines. **Map 2-8** shows the 2035 rail improvements and **Maps 2-9** through **2-12** show grade separations for Los Angeles, Orange, Riverside and San Bernardino Counties.

Alternative Technology-Based Goods Movement/Logistics

The region is also exploring new alternative technology-based systems that can provide greater throughput and reliability with fewer emissions than traditional rail (the emissions would be only those associated with electricity generation). A recent analysis carried out by the IBI Group considered the application of an HSRT system for the movement of containers (logistics and systems technology) to and from the San Pedro Bay Ports. This container movement system would provide a high-capacity, fast, and efficient method of moving container cargo from the Ports to an inland port facility in San Bernardino. The system capitalizes on the inherent savings of multiple uses on a single infrastructure by operating on shared alignments with the HSRT passenger system. The technology permits operation of HSRT freight vehicles on a shared guideway 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. The deployment of the HSRT system would create value in associated components which could in turn contribute to the HSRT's total financial performance. The connection for the HSRT system would begin at the Ports and join up with the IOS at a point just east of Union Station (Hobart Yard). This alignment runs north-south and is assumed to follow a route parallel to the I-710/Alameda Corridor. After connecting to the IOS and other segments, the freight-only service would be interspersed with passenger service.

Table 2-6 summarizes the project types and costs associated with implementing the 2008 RTP. In addition, **Tables 2-7, 2-8 and 2-9** show the existing, No Project and 2008 RTP lane miles by county.

Mobility and Air Quality

The SCAG region has also experienced cleaner and healthier air quality over the past two decades due in part to collaborative efforts over the years to reduce emissions from stationary and mobile sources. However, even with these efforts, much of the region continues to exceed the National Ambient Air Quality Standards (NAAAQS) and the South Coast Air Basin (SCAB) still has the worst air quality in the nation. The majority of pollutants can be attributed to transportation.

TABLE 2-6
SUMMARY OF 2008 RTP PROJECT TYPES
(EXCLUSIVE OF MAINTENANCE AND MONITORING PROJECTS)

Project Type	Cost
Highway Improvements	$90.7 billion
Mixed Flow Lanes and Interchanges/Ramps	$25.1 billion
HOV	$8.0 billion
Toll Lanes	$40.0 billion
Arterial	$17.6 billion
Transit Improvements	$34.1 billion
Commuter Rail	$5.9 billion
Heavy Rail	$5.2 billion
Light Rail	$1.7 billion
Bus Rapid Transit	$0.6 billion
Bus	$17.5 billion
Other Transit	$3.2 billion
High-Speed Regional Transport	$29.1 billion
Goods Movement Strategies	$36.3 billion
Mainline Rail Capacity Improvements	$3.2 billion
Highway-Rail Grade Separations	$6.0 billion
Upgrade to Tier 4 engines	$3.8 billion
Alternative Technology-Based Goods Movement System	$17.9 billion
Dedicated Lanes for Clean Technology Trucks	$5.1 billion
Truck Climbing Lanes	$0.3 billion
Total	$190.2 billion

SOURCE: SCAG, 2008 Regional Transportation Plan

TABLE 2-7
EXISTING (2003) LANE MILES BY COUNTY

County	Freeway Lane Miles	Toll Lane Miles	Major Arterial Lane Miles	Minor Arterial Lane Miles	Collector Lane Miles	HOV Lane Miles	Total Lane Miles in Each County
Imperial	375	0	323	673	2,374	0	3,744
Los Angeles	4,619	0	8,663	9,216	3,356	418	26,273
Orange	1,256	295	3,122	3,122	449	201	8,444
Riverside	1,671	0	1,192	3,016	3,411	54	9,344
San Bernardino	2,267	0	1,713	4,061	5,875	78	13,995
Ventura	495	0	874	979	623	1	2,971
Total Lane Miles by project type	10,683	295	15,887	21,067	16,088	752	64,771

SOURCE: SCAG (2007) Regional Travel Demand Model

TABLE 2-8
NO PROJECT LANE MILES BY COUNTY

County	Freeway Lane Miles	Toll Lane Miles	Major Arterial Lane Miles	Minor Arterial Lane Miles	Collector Lane Miles	HOV Lane Miles	Total Lane Miles in Each County
Imperial	373	0	437	682	2,369	0	3,861
Los Angeles	4,656	0	8,810	9,332	3,343	511	26,651
Orange	1,282	500	3,183	3,128	450	225	8,769
Riverside	1,699	1	1,244	3,133	3,494	75	9,645
San Bernardino	2,472	0	1,784	4,230	6,036	93	14,615
Ventura	527	0	891	1,006	615	0	3,039
Total Lane Miles by project type	11,010	501	16,349	21,510	16,307	904	66,581

SOURCE: SCAG (2007) Regional Travel Demand Model

TABLE 2-9
2008 RTP LANE MILES BY COUNTY

County	Freeway Lane Miles	Toll Lane Miles	Major Arterial Lane Miles	Minor Arterial Lane Miles	Collector Lane Miles	HOV Lane Miles	Total Lane Miles in Each County
Imperial	412	0	543	648	2,353	0	3,956
Los Angeles	4,749	144	9,118	9,340	3,355	570	27,276
Orange	1,422	541	3,202	3,168	439	243	9,016
Riverside	1,949	13	1,666	4,000	4,256	132	12,016
San Bernardino	2,710	0	2,966	4,678	5,907	206	16,467
Ventura	555	0	908	1,040	623	7	3,134
Total Lane Miles by project type	11,798	698	18,402	22,874	16,934	1,159	71,866

SOURCE: SCAG (2007) Regional Travel Demand Model

Environmental Justice

FHWA and the FTA have a commitment to assuring environmental justice in the programs they fund. Both of these federal agencies recently issued proposed revised planning regulations regarding environmental justice. This was done in part to comply with Title VI of the Civil Rights Act of 1964 and associated regulations and policies, including President Clinton's 1994 Executive Order 12898 on Environmental Justice. Generally these laws prohibit discrimination on the basis of race, income, age, or disability. In the transportation-planning context, SCAG seeks to assure

that the plan benefits and burdens are not inequitably distributed within the region. A detailed analysis of the environmental justice analysis and methodology is contained in the plan.

SCAG's environmental justice program includes two main elements: public outreach and analysis. The public outreach efforts are intended to assure that all members of the public have an opportunity to participate meaningfully in the planning process. These efforts include targeted outreach to minority and low-income communities throughout the region to assure that their concerns are heard and addressed. SCAG's 2008 RTP examines several performance measures to determine if there is a disproportionate negative impact of the Plan on any income, ethnic, or age group.

Proposed Plan and RTP PEIR Alternatives

The alternatives evaluated for the RTP PEIR include:

The **Proposed Plan**, which includes all of the elements summarized above, contains transportation/urban form strategies that encourage compact growth, increased jobs/housing balance, and centers based development where feasible, in all parts of the region.

The **No Project** Alternative includes only those programmed transportation projects that received federal environmental clearance by December 2006, projects in the first year of the 2006 RTIP and projects currently undergoing construction or right of way approval. These reasonably foreseeable projects fulfill the definition of the CEQA mandated "No Project Alternative."

The **2004 Modified RTP** Alternative is an update of the adopted 2004 RTP to reflect the most recent growth estimates and transportation planning decisions and assumptions. This alternative does not include urban form strategies included within SCAG's Compass Blueprint program to the extent included within the Plan.

The **Envision** Alternative builds on the enhanced density and ideas of the SCAG Compass Blueprint program as described in the Plan and goes further. It includes far more aggressive densities than the Proposed Plan alternative and limits the development of single family housing that would be built in the region.

Relationship to other EIRs

The 2008 RTP PEIR builds on the analysis and mitigation contained in the 2004 RTP PEIR. The project list of the 2008 RTP is similar to the project list for the 2004 RTP, although some of the transportation projects from the 2004 RTP are now considered committed and are included in the No Project Alternative. The 2008 RTP PEIR evaluates the most recent projects and policies and provides more direct comparisons between current conditions and expected future Plan conditions. The 2008 RTP PEIR includes additional analysis of cumulative, growth-inducing and other indirect impacts.

Intended Uses of the PEIR

SCAG will use this PEIR as part of its review and approval of the 2008 RTP. The lead agencies for individual projects may use this PEIR as the basis of their regional and cumulative impacts analysis. Moreover, it is the intent of SCAG that member agencies and others use the information contained within the PEIR in order to "tier" subsequent environmental documentation of projects in the region. Information from this document may also be incorporated in future County Congestion Management Programs and associated environmental documents, as applicable.

The 2008 RTP is intended to meet the changing socioeconomic, transportation infrastructure, financial, technological and environmental conditions of the region. Individual projects are preliminarily identified in the 2008 RTP; however, this PEIR is programmatic in nature and does not specifically analyze these projects. Project-level analysis will be prepared by implementing agencies on a project by project basis. Project specific planning and implementation undertaken by each implementing agency will depend on a number of issues, including: policies, programs and projects adopted at the local level; restrictions on federal state and local transportation funds; the results of feasibility studies for particular corridors; and further environmental review of proposed projects.