

## 2012 RTP Environmental Mitigation

SAFETEA-LU, the reauthorization of TEA-21, was enacted into law by President Bush on August 10, 2005. Pursuant to Section 6001 of this legislation, statewide or metropolitan long-range plans must include a discussion of potential environmental mitigation activities and potential areas to carry out these activities. This includes activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan.” As such, the RTP includes a discussion of mitigation measures in order to comply with this requirement. As a public agency in California, SCAG first and foremost fulfills mitigation requirements by complying with CEQA.

In addition, as part of the planning process, states and MPOs “shall consult, as appropriate, with state and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of a long-range transportation plan.” They also must consider, if available, “conservation plans and maps” and “inventories of natural or historic resources.”

California law requires SCAG to prepare and certify a Program Environmental Impact Report (PEIR) prior to adopting the RTP. The PEIR evaluates the environmental impacts of the RTP and proposes specific measures to mitigate impacts to the maximum extent feasible. Although the 2012 RTP, in and of itself, is a plan to mitigate the transportation-related effects of population growth, such as traffic congestion and poor air quality, because the transportation improvements can result in additional growth, the PEIR goes further by recommending additional environmental mitigation at the program level for those resource areas that would be affected by the Plan (and associated growth) such as land use, biological resources and open space, water and greenhouse gases.

The section below summarizes the mitigation program. A list of all the mitigation measures included in the 2012 RTP PEIR will be included in the Environmental Mitigation Report of the Final 2012 RTP. The general purpose of the mitigation measures included in the PEIR is to identify how to protect the environment, improve air quality, and promote energy efficiency in concert with the proposed transportation improvements and related planning. This provides a framework through which implementing agencies and subregions can address the environmental impacts of RTP projects, while implementing RTP goals and policies.

## Mitigation Strategies

The PEIR provides three different categories of mitigation measures for consideration and implementation, as indicated below:

- **Regional Mitigation Measures:** Within this category are mitigation measures that can be implemented by SCAG at the regional level. These measures are generally aimed at gathering additional information that can assist in measuring impacts and determining appropriate mitigation and promoting policies and programs that would reduce impacts.
- **Local Mitigation Measures:** The second type of mitigation measures are those that would be implemented at the local level by individual cities and counties. These measures can strengthen planning documents to ensure the provision of appropriate mitigation measures in the planning process.
- **Project-Specific Mitigation Measures:** This category includes project-specific mitigation measures that are required by the appropriate agency under whose jurisdiction the project falls (i.e., city or county). As a programmatic document, many of the measures in the PEIR refer to performance standards because site-specific conditions cannot reasonably be evaluated at the programmatic level.

## Conservation Planning Policy

SAFETEA-LU requires that the RTP contain a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities. This includes activities that may have the greatest potential to restore and maintain environmental functions affected by the plan [Sec. 6001(i)(2)(B)(i)]. As such, this is being addressed in the RTP and is separate and distinct from the mitigation measures addressed in the PEIR. SCAG could demonstrate progress and satisfy SAFETEA-LU requirements through the large-scale acquisition and management of critical habitat to mitigate impacts related to future transportation projects.

Suggested steps to develop a conservation policy of this type could include the following:

- Engage in a strategic planning process to determine the critical components and implementation steps in the Open Space Conservation Plan Identify and map regional priority conservation areas for inclusion in this plan.

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- Engage with various partners, including CTCs, to determine priority conservation areas and develop an implementable plan.
- Develop regional mitigation policies or standards for the 2016 RTP.

This strategy supports natural land restoration, conservation, protection and acquisition offering Greenhouse Gas (GHG) emissions reduction benefits. Post-RTP strategic planning efforts would include addressing various pertaining to this proposed approach such as identifying appropriate agencies to partner with and determining specific mapping parameters (for example, geographic scale).

In addition, this type of strategic planning approach could also be applied to address impacts to other resource areas.



## Summary of the Environmental Mitigation Program

As required by SAFETEA-LU, the RTP includes an environmental mitigation program that links transportation planning to the environment. Building on its strong commitment to the environment as demonstrated in the 2008 PEIR, SCAG's mitigation program creates an implementation strategy to show varying levels of authority (state, regional, and local). This mitigation discussion also utilizes documents created by federal, state and local agencies to guide environmental planning for transportation projects. The following discussion focuses on specific resource areas and the proposed approaches to mitigate impacts to these areas.

### BIOLOGICAL RESOURCES AND OPEN SPACE

The RTP includes two regional scale maps (**EXHIBITS 2.11** and **2.12**) that identify sensitive environmental resources, such as protected lands and sensitive habitats.

According to the Federal Highway Administration, there are more than 3.9 million center-line miles of public roads that span the United States. Each day, an estimated one million animals are killed on roads, making road kill the greatest human cause of wildlife mortality in the country. As in previous RTPs, the 2012 RTP seeks to minimize transportation-related impacts on wildlife, and also better integrate transportation infrastructure into the environment.

Impacts to biological resources generally include displacement of native vegetation and habitat on previously undisturbed land; habitat fragmentation and decrease in habitat connectivity; and displacement and reduction of local, native wildlife including sensitive species. Building new transportation routes and facilities through undisturbed land or expanding facilities and increasing the number of vehicles traveling on existing routes will directly injure wildlife species, cause wildlife fatalities, and disturb natural behaviors such as breeding and nesting. This will result in the direct reduction or elimination of species populations (including sensitive and special-status species) and native vegetation (including special-status species and natural communities) as well as the disruption and impairment of ecosystem services provided by native habitat areas.

The biological resources mitigation program includes the following types of measures:

- Planning transportation routes to avoid/minimize removal of native vegetation, displacement of wildlife, and impacts to regionally and locally significant

habitat types such as oak woodlands, vernal pools, estuaries, lagoons, and other riparian areas

- Including provisions for habitat enhancement such as mitigation banking, improving/retaining habitat linkages, preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation
- Conducting appropriate surveys to ensure no sensitive species' habitat or special-status natural communities is unnecessarily destroyed
- Avoiding and minimizing impacts to wildlife activities (such as breeding, nesting, and other behaviors) during construction of the project by avoiding construction during critical life stages or sensitive seasons
- Avoiding and minimizing impacts to habitat during project construction through actions such as fencing off sensitive habitat, minimizing vehicular accessibility, and salvaging native vegetation and topsoil
- Minimizing further impacts to wildlife and their habitats after project construction by replanting disturbed areas; providing vegetation buffers at heavily trafficked transportation facilities; and restoring local, native vegetation

### LOCATIONS FOR MITIGATION

As part of the 2008 Regional Comprehensive Plan, SCAG mapped locations of the protected and unprotected areas in relation to wildlife linkages, linkage design areas, park and recreation areas (from SCAG's 2008 land use inventory), agricultural lands, and developed lands. Together, these form the region's open space infrastructure. Maps were created showing the distribution of protected and unprotected lands within the SCAG region and its vicinity. It also shows the location of county-level conservation efforts such as Habitat Conservation Plans (HCPs) and Natural Communities Conservation Plans (NCCPs). Although portions of these areas fall within the "protected" category, large portions of habitat within these areas remain "unprotected" and therefore should still be considered for mitigation activities. These maps will be updated as a function of post-RTP planning efforts.

Specifically, those areas that are "unprotected" could be possible locations for mitigation. SCAG does not have the authority to purchase or manage lands. Conservation of these

areas will be achieved through already-established programs. SCAG will continue to work with its regional partners to help facilitate conservation.

## Types of Mitigation Activities

The mitigation program of the 2012 RTP generally includes strategies to reduce impacts where transportation and sensitive lands intersect and also encourages smart land use strategies that maximize the existing system and eliminate the need for new facilities that might impact open space and habitat. Potential mitigation programs include better planning of transportation projects to avoid or lessen impacts to open space, recreation land, and agricultural lands through information and data sharing, increasing density in developed areas and minimizing development in previously undeveloped areas that may contain important open space.

The mitigation program also emphasizes the importance of integrating consideration of wildlife and habitat into the design of transportation facilities in those areas where impacts cannot be avoided. SCAG encourages project sponsors to review Ventura County's Wildlife Crossing Guidelines and FHWA's Critter Crossings. Both documents provide examples of context-sensitive solutions (CSS) which is a way of involving all stakeholders to develop transportation facilities that fit their physical setting and preserve scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist. CSS principles include the employment of early, continuous, and meaningful involvement of the public and all stakeholders throughout the project development process. Additional information on CSS is available on FHWA's website at: <http://www.fhwa.dot.gov/context/index.cfm>

In summary, the biological resources and open space mitigation programs include the following types of measures:

- Identifying open space areas that can be preserved and developing mitigation measures such as mitigation banking, transfer of development rights (for agricultural lands), and payment of in lieu fees
- Updating General Plan information from cities to provide the most recent land use data to the region
- Coordinating with cities and counties to implement growth strategies that maximize the existing transportation network
- Evaluating project alternatives and alternative route alignments where projects intersect with sensitive habitats
- Integrating the planning of transportation facilities with context-sensitive design elements such as wildlife crossings

## GREENHOUSE GASES

California is the fifteenth largest emitter of GHGs on the planet. The transportation sector, primarily, cars and trucks that move goods and people, is the largest contributor with 36.5 percent of the State's total GHG emissions in 2008. On road emissions (from passenger vehicles and heavy duty trucks) constitute 93 percent of the transportation sector total. In order to disclose potential environmental effects of the RTP, SCAG has prepared an estimated inventory of the region's existing GHG emissions, identified mitigation measures, and compared alternatives in the PEIR.

The GHG mitigation program includes, but is not limited to, the following types of measures:

- Land use changes included in the SS that reduce number and length of trips
- Encouragement of green construction techniques such as using the minimum amounts of GHG emitting construction equipment;
- Public outreach campaigns publicizing the importance of reducing GHG emissions
- Promotion of pedestrian and bicycle as modes of transportation



## AIR QUALITY

The 2012 RTP includes programs, policies and measures to address air emissions. Measures that help mitigate air emissions are comprised of strategies that reduce congestion, increase access to public transportation, improve air quality, and enhance coordination between land use and transportation decisions. SCAG's vision includes the introduction of a high-speed, high-performance regional transport system that may potentially reduce airport and freeway congestion and provide an alternative to the single-occupancy automobile. In order to disclose potential environmental effects of the RTP, SCAG has prepared an estimated inventory of the region's emissions, identified mitigation measures, and compared alternatives in the PEIR. The mitigation measures seek to achieve the maximum feasible and cost-effective reductions in emissions.

The air quality mitigation program includes, but is not limited to, the following types of measures:

- ARB measures that set new on-road and off-road engine standards and accelerate turnover of higher emitting engines from the in-use fleet;
- Project specific measure to reduce impacts from construction activities such as the use of water and dust suppressants and restrictions on trucks hauling dirt, sand and soil; and
- Incorporating planting of shade trees into construction projects where feasible

In addition, the RTP includes Transportation Control Measures (TCMs), which are those mitigation measures that reduce congestion and improve air quality in the region.

## TRANSPORTATION AND SAFETY

The 2035 transportation model takes into account the population, households, and employment projected for 2035, and therefore the largest demand on the transportation system expected during the lifetime of the 2012 RTP. In accounting for the effects of regional population growth, the model output provides a regional, long-term and cumulative level of analysis for the impacts of the 2012 RTP on transportation resources. The regional growths, and thus, cumulative impacts, are captured in the VMT, VHT, and heavy-duty truck VHT data.

Implementation of the 2012 RTP/SCS includes implementation of a series of projects which are described in the RTP. The 2035 transportation system performance is compared to the performance of the existing (2011) system for the purpose of determining the significance of impacts. The SCAG region is vulnerable to numerous threats that include both natural and human-caused incidents. As such, a mitigation program related to safety is included in the 2012 PEIR. The mitigation program for the 2012 RTP aims for extensive coordination, collaboration and flexibility among all of the agencies and organizations involved in planning, mitigation, response and recovery.

The transportation and safety mitigation program includes the following types of measures:

- Increasing rideshare and work-at-home opportunities to reduce demand on the transportation system

- Investments in non-motorized transportation and maximizing the benefits of the land use-transportation connection
- Travel Demand Management (TDM) measures
- Goods movement capacity enhancements
- Key transportation investments targeted to reduce heavy-duty truck delay
- Establishing transportation infrastructure practices that promote and enhance security
- Helping to enhance the region's ability to deter and respond to terrorist incidents, and human-caused or natural disasters by strengthening relationships and coordination with transportation agencies
- Working to enhance emergency preparedness awareness among public agencies and with the public at large

## POPULATION AND HOUSING

Transportation projects including new and expanded infrastructure are necessary to improve travel time and can enhance quality of life for those traveling throughout the region. However, these projects also have the potential to induce population growth in certain areas of the region. Although SCAG does not anticipate that the RTP would affect the total growth in population in the region, the RTP has the ability to affect the distribution of that growth.

In addition to induced population growth, transportation projects in the RTP also have the potential to divide established communities, primarily through acquisition of rights-of-way.

The population and housing mitigation program includes the following types of measures:

- Develop advisory land use policies and strategies that utilize the existing transportation network and enhance mobility while reducing land consumption
- Require project implementation agencies to provide relocation assistance, as required by law, for residences and businesses displaced
- Require project implementation agencies to design new transportation facilities that consider existing communities



## LAND USE

The 2012 RTP contains transportation projects to help more efficiently distribute population, housing, and employment growth. These transportation projects are generally consistent with the county- and regional-level general plan data available to SCAG; however, general plans are not updated consistently. In addition, the RTP's horizon year of 2035 is beyond the timeline of even the most recent general plans.

The land use mitigation program includes the following types of measures:

- Encourage cities and counties to update their general plans and provide the most recent plans to SCAG
- Work with member cities to ensure that transportation projects are consistent with the RTP and general plans
- Work with cities and counties to ensure general plans reflect RTP policies

## AESTHETICS

The SCAG region includes several highway segments that are recognized by the State as designated scenic highways or are eligible for such designation. Construction and implementation of projects in the RTP could impact designated scenic highways and restrict or obstruct views of scenic resources such as mountains, ocean, rock outcroppings, etc. In addition, some transportation projects could add urban visual elements, such as transportation infrastructure (highways, transit stations) to previously natural areas.

In summary, the aesthetics mitigation program includes the following types of measures:

- Require project implementation agencies to implement design guidelines to protect views of scenic corridors
- Require project implementation agencies to use construction screens and barriers that complement the existing landscape
- Require project implementation agencies to complete design studies for projects in designated or eligible scenic highways
- In visually sensitive areas, require local land use agencies to apply development standards and guidelines that maintain compatibility

## PUBLIC SERVICES AND UTILITIES

Impacts to public services from the 2012 RTP generally include additional demands on fire and police services, schools and landfills. Additional police and fire personnel would be needed to adequately respond to emergencies and routine calls, particularly on new or expanded transportation facilities.

The 2012 RTP's influence on growth could contribute to impacts on public schools, requiring additional teachers and educational facilities. Additional population growth could result in a greater demand for solid waste disposal facilities. Furthermore, collecting solid waste and transporting it to an available disposal facility would impact roads and railways.

In summary, the public services mitigation program includes the following types of measures:

- Require the project implementation agencies to identify police protection, fire service, emergency medical service, waste collection and public school needs and

coordinate with local officials to ensure that the existing public services would be able to handle the increase in demand for their services

- Require the project implementation agencies to identify the locations of existing utility lines and avoid all known utility lines during construction
- Encourage green building measures to reduce waste generation and reduce the amount of waste sent to landfills
- Encourage the use of fire-resistant materials and vegetation when constructing projects in areas with high fire threat

As the region continues to add more people, households and jobs, the demand for energy will continue to grow. Every day, the SCAG region consumes more than 23 million gallons of oil and the SCAG region's vehicle fuel consumption has increased 20 percent over the last ten years. In the face of this growth in energy demand and concerns about future oil supplies, there is the mounting realization that we are living in an energy-constrained world. As such, the 2012 RTP includes strategies to reduce Vehicle Miles Traveled (VMT), and as a result, per capita energy consumption from the transportation sector. The PEIR also includes mitigation measures relating to energy designed to reduce consumption and increase the use and availability of renewable sources of energy in the region. Since these measures not only reduce energy consumption but also reduce GHG emissions they are addressed above under GHG.

## GEOLOGY, SOILS, AND SEISMICITY

Impacts to geological resources generally include the disturbance of unstable geologic units (rock type) or soils, causing the loss of topsoil and soil erosion, slope failure, subsidence, project-induced seismic activity and structural damage from expansive soils. These activities, in addition to building projects on and around Alquist-Priolo Fault Zones and other local faults, could expose people and/or structures to the risk of loss, injury, or death.

The geological mitigation program includes the following types of measures:

- Employing appropriate grading, construction practices, siting, and design standards, such as adherence to the California Building Code and State of California design standards
- Obtaining site-specific geotechnical data from qualified geotechnical experts

- Complying with all relevant local, state, and federal construction and design requirements for structures located on or across Alquist-Priolo Fault Zones and other local faults

## CULTURAL RESOURCES

Impacts to cultural resources generally include substantial adverse changes to historical and archaeological resources and direct or indirect changes to unique paleontological resources or sites or unique geological features. Adverse changes include the destruction of culturally and historically (recent or geologic time) significant and unique historical, archaeological, paleontological, and geological features.

The cultural resources mitigation program includes the following types of measures:

- Obtaining consultations from qualified cultural and paleontological resource experts to identify the need for surveys and preservation of important historical, archaeological, and paleontological resources
- Implementing design and siting measures that avoid disturbance of cultural and paleontological resource areas, such as creating visual buffers/landscaping or capping/filling the site to preserve the contextual setting of the resource
- Monitoring construction activity in areas with moderate to high potential to support paleontological resources and overseeing salvage operations of paleontological resources
- Consulting local tribes and the Native American Heritage Commission for project impacts to sacred lands and burial sites

## WATER RESOURCES

Impacts to water resources from the 2012 RTP include potential water quality impairment from increased impervious surfaces. Increased impervious surfaces in water recharge areas potentially impact groundwater recharge and groundwater quality. Cumulative impacts from the projected growth induced by the RTP include increased impervious surfaces; increased development in alluvial fan floodplains; and increased water demand and associated impacts, such as drawdown of groundwater aquifers. Increased output of greenhouse gases from the region's transportation system impacts the security and reliability of the imported water supply.

The water resources mitigation program includes the following types of measures:

- Utilizing advanced water capture and filtration techniques, showing a preference for naturalized systems and designs, to control stormwater at the source
- Avoiding any new construction of impervious surfaces in non-urbanized areas, such as wetlands, habitat areas, parks, and near river systems
- Avoiding any new construction that provides access to flood-prone areas, such as in alluvial fans and slide zones
- Protection and preservation of existing natural flood control systems, such as wetlands and riparian buffers, and expansion of such systems in areas where they do not currently exist
- Constructing projects according to Best Management Practices for water quality protection and water conservation, including low-impact development and green building standards
- Coordinating project development and construction efforts across jurisdictional, agency, and departmental boundaries, to increase project benefits

## HAZARDOUS MATERIALS

Implementation of the 2012 RTP would affect the transportation and handling of hazardous materials in the SCAG region. Expected significant impacts include risk of accidental releases due to an increase in the transportation of hazardous materials and the potential for such releases to reach neighborhoods and communities adjacent to transportation facilities. The hazardous materials mitigation program aims to minimize the significant hazard to the public or the environment that involves the release of hazardous materials into the environment. Potential mitigation programs include active coordination with regulatory agencies and first responders in order to ensure proper handling and transport of hazardous materials and their containers.

Mitigation measures also involve ensuring that the project implementation agency complies with all applicable laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers and that the routine transport, use, and disposal of hazardous materials does not create a significant hazard to the public or the environment.

The hazardous materials mitigation programs include the following types of measures:

- Coordinating with regulatory agencies and first responders in order to continue to govern goods movement and hazardous materials transportation throughout the region
- Considering existing and known planned school locations when determining the alignment of new transportation projects and modifications to existing transportation facilities
- Encouraging project sponsors to consider published lists of contaminated properties, which are continually updated, in order to identify cases where new development would involve the disturbance of contaminated properties
- Developing appropriate mitigation measures to assure that worker and public exposure is minimized to an acceptable level and to prevent any further environmental contamination as a result of construction
- Ensuring that project implementation agencies comply with all applicable laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers and that the routine transport, use, and disposal of hazardous materials does not create a significant hazard to the public or the environment

## NOISE

Some of the principal noise generators within the SCAG region are associated with transportation (i.e., airports, freeways, arterial roadways, seaports, and railroads). Additional noise generators include stationary sources, such as industrial manufacturing plants and construction sites. Noise impacts resulting from the 2012 RTP generally include exposure of sensitive receptors to noise in excess of normally acceptable noise levels or substantial increases in noise as a result of the operation of expanded or new transportation facilities. As such, the noise mitigation program includes mitigation measures designed to minimize the impact of noise on sensitive receptors as a result of the implementation of the 2012 RTP. These mitigation measures include ensuring that project implementing agencies comply with all local sound control and noise level rules, regulations, and ordinances; utilizing the best available noise control techniques (including mufflers, intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) in order to minimize construction noise impacts; and utilizing land use planning measures,

such as zoning, restrictions on developments, buffers, etc., to minimize exposure to sensitive receptors.

The noise mitigation programs include the following types of measures:

- Encouraging project implementing agencies to comply with all local sound control and noise level rules, regulations, and ordinances
- Developing the best available noise control techniques in order to minimize construction noise impacts
- Conducting a project-specific noise evaluation as part of the appropriate environmental review of each project
- Encouraging project implementation agencies to maximize the distance between noise-sensitive land uses and new roadway lanes, roadways, rail, transit centers, park-and-ride lots, and other new noise-generating facilities

