Final Program Environmental Impact Report for the Regional Comprehensive Plan for the San Diego Region

State Clearinghouse Number 2004011141

June 2004
FINAL
PROGRAM ENVIRONMENTAL IMPACT REPORT
FOR THE
REGIONAL COMPREHENSIVE PLAN

SCH No. 2004011141

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July 2004
ABSTRACT

This Final Environmental Impact Report has been prepared in accordance with California Environmental Quality Act (CEQA) statutes and guidelines to address the Regional Comprehensive Plan (RCP). The RCP is the long-range planning document that addresses the region's housing, economic, transportation, environmental and overall quality of life needs. The RCP establishes a planning framework and implementation actions that aim to increase the region's sustainability and encourage "smart growth."

The Draft EIR was circulated for a 45-day public review period from April 2, 2004 to May 17, 2004. The following agencies, organizations, and individuals provided comments during the review period:

- Governor’s Office of Planning and Research
- California Department of Fish and Game
- Department of Conservation
- Governor’s Office of Emergency Services
- Transportation Corridor Agencies
- City of Carlsbad
- City of Chula Vista
- City of Coronado
- City of Del Mar
- City of San Diego, Environmental Services Department
- City of San Diego, Planning Department
- City of Solana Beach
- County of San Diego
- San Diego County Regional Airport Authority
- San Diego County Water Authority
Appendix B of the Final EIR includes comment letters received from agencies, organizations, and individuals during the review period. If a comment did not relate to the EIR, it is included and noted. Responses to comments are also included in Appendix B. As part of the response to comments, some minor clarifications have been made to the text of the Final EIR. To assist the reader in identifying the changes between the Draft EIR and Final EIR, text added to the document appears in an underline format. Text that has been deleted appears in the right margin. The following table identifies which text pages have been changed in the Draft EIR.
TO: Interested Agencies, Organizations, and Individuals

FROM: SANDAG Staff

SUBJECT: Changes incorporated into the Final Environmental Impact Report (EIR) for the RCP

Following the public review period on the Draft EIR, clarification and corrections were made to the text of the Final EIR. The following table identifies the page numbers that changed. The changes incorporated in the document did not result in any new significant environmental impacts. Text that has been added to the document appears in an underline format. Text that has been deleted appears in the right margin. Copies of all letters received by SANDAG regarding the Draft EIR and the responses to comments are found in Appendix B.

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<td>International Boundary and Water Commission</td>
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<td>IID</td>
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<td>IMPlan</td>
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<td>Million Acre Feet</td>
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<td>Marine Corps Base</td>
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<td>Mitigation Monitoring and Reporting Program</td>
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<td>Memorandum of Agreement</td>
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<td>Miles per Gallon</td>
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<td>Nitrogen Oxide</td>
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Acronyms

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<tr>
<th>Acronym</th>
<th>Definition</th>
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<td>Nitrogen Dioxide</td>
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<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
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<td>Ozone</td>
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<td>Lead</td>
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<td>Program Environmental Impact Report</td>
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<td>PMP</td>
<td>Port Master Plan</td>
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<td>PM$_{10}$</td>
<td>Particulate Matter of 10 Microns or Less in Diameter</td>
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<td>PM$_{2.5}$</td>
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<td>Regional Air Quality Strategy</td>
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<td>RCIP</td>
<td>Riverside County Integrated Project</td>
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<td>ROG</td>
<td>Reactive Organic Gases</td>
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<td>RTP</td>
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<td>Regional Transit Vision</td>
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<td>South Coastal Information Center</td>
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<td>Smart Growth Opportunity Areas</td>
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<td>State Implementation Plan</td>
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<td>Surface Mining and Recovery Act</td>
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<td>TDS</td>
<td>Total Dissolved Solids</td>
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<td>Transportation Equity Act for the 21st Century</td>
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<td>Acronyms</td>
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<td>TWG</td>
<td>Technical Working Group</td>
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<td>Uniform Building Code</td>
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<td>USDOT</td>
<td>United States Department of Transportation</td>
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<td>USFWS</td>
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<td>USMC</td>
<td>United States Marine Corps</td>
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<td>VMT</td>
<td>Vehicle Miles Travel</td>
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<td>ZEV</td>
<td>Zero-Emission Vehicles</td>
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Executive Summary

1.0 EXECUTIVE SUMMARY

1.1 Introduction and Background

This Program Environmental Impact Report (PEIR) has been prepared pursuant to the California Environmental Quality Act (CEQA) for the Regional Comprehensive Plan (RCP) by the San Diego Association of Governments (SANDAG). The Draft RCP was released by SANDAG in December 2003. This PEIR analyzes the potential significant impacts of the adoption of the RCP by SANDAG. The RCP is the long-range planning document that addresses the region's housing, economic, transportation, environmental and overall quality of life needs. The RCP establishes a planning framework and implementation actions that aim to increase the region's sustainability and encourage "smart growth." Sustainability means planning and development that meets economic, environmental, and community needs, without jeopardizing the ability of future generations to meet these needs. Smart growth is a compact, efficient and environmentally-sensitive pattern of development that provides people with additional travel, housing and employment choices by focusing future growth away from rural areas and closer to existing and planned job centers and public facilities. Smart growth both complements and encourages sustainability.

1.2 Purpose and Scope of the PEIR

The RCP EIR is a program EIR, as defined in the CEQA Guidelines. Section 15168 of the CEQA Guidelines defines a program EIR as “an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically; (2) as logical parts in the chain of contemplated actions; (3) in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts which can be mitigated in similar ways.” The RCP PEIR is consistent with the requirements established under Section 15168 of the CEQA Guidelines.
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Issues areas addressed in the PEIR include:

- Land Use
- Population/Housing/Employment
- Visual Resources
- Transportation/Circulation
- Air Quality
- Noise
- Energy
- Geology/Paleontology
- Hydrology/Water Resources
- Biological Resources
- Cultural Resources
- Public Services/Utility Systems

The PEIR also include other required CEQA analyses including growth inducement, significant effects which cannot be avoided, and significant irreversible environmental changes.

1.3 Project Objectives

Together with the previously adopted Regional Transportation Plan (RTP) MOBILITY 2030, the primary purpose of the RCP is to provide a comprehensive framework for greater coordination of regional transportation and land use planning so that local jurisdictions and infrastructure providers can update their plans in a manner that achieves the following objectives:

- Encourage sustainable development by making land use decisions and infrastructure investments that are good for the environment. Sustainability means planning and development that meets economic, environmental, and community needs, without jeopardizing the ability of future generations to meet these needs;

- Support "smart growth" through the prioritization of regional transportation funds. Smart growth is a compact, efficient and environmentally-sensitive pattern of development that provides people with additional travel, housing and employment choices by focusing future growth away from rural areas and closer to existing and planned job centers and public facilities, while preserving open space and natural resources. Smart growth both complements and encourages sustainability;

- Address the region’s housing needs, recognizing that the rate of population increase is exceeding the rate of housing unit increase; and

- Achieve fairness and equity in regional planning and development processes.
1.4 Proposed Project

The RCP is the long-range planning document that addresses the region's housing, economic, transportation, environmental and overall quality of life needs. The RCP establishes a planning framework and implementation actions that aim to increase the region's sustainability and encourage "smart growth." These two interrelated approaches, sustainability and smart growth, form the basis of the RCP.

To encourage regional sustainability and smart growth, the RCP aims to reduce the number of housing units and residents that are expected to be "exported" from the region by 2030 according to currently adopted land use plans as well other political and physical factors. To achieve this, the Plan identifies certain areas in the region as Smart Growth Opportunity Areas (SGOA). Designation of these opportunity areas is intended to provide guidance to local governments, property owners, and service providers as to where smart growth development should occur from a regional perspective, and focuses attention on these areas as local jurisdictions update their general plans and redevelopment plans. Once these areas are designated by local jurisdictions for development types, densities, and intensities consistent with the goals of this Plan, transportation facility improvements and other infrastructure will be targeted to these areas.

The intended effect of this is to capture housing units that are anticipated to be exported from the San Diego region to Baja California, Riverside County, Orange County and Imperial County by 2030. The RCP would redirect those housing units to areas within the region that are located along the existing and proposed regional transportation corridors identified in Figure 1.4-1 as well as other locations where compact development is appropriate from a regional transportation/land use perspective. Although most of the SGOA are oriented around transit stations along the transportation corridors in the incorporated cities, some unincorporated communities would also be expected to implement some RCP-directed growth. These unincorporated communities may include, but are not limited to, Valley Center, Fallbrook, Ramona, Alpine, and Lakeside. A portion of this redirected development will occur in areas of vacant land and a portion will occur as redevelopment and infill development in urbanized communities. Based upon regional projections, approximately 93,000 housing units will be exported from the region by 2030 based upon existing land use plans.
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Although when the planning process for the RCP was initiated, one of the scenarios envisioned was to balance population growth with housing needs, this PEIR assumes that because of the complexities of regional planning, coordination between local and regional agencies, and other political and fiscal realities, about 40 to 60 percent (37,000 to 55,000) of the 93,000 units could be recaptured as a result of implementing the RCP. Where a specific population number is necessary for analysis in this PEIR, the midpoint of this range will be used (46,000). This number is provided in the EIR for analysis purposes and is only intended to demonstrate the potential impacts of implementing all the interrelated quality-of-life goals, policy objectives, and actions contained in the RCP in a manner that assumes related infrastructure investments in conjunction with the provision of additional housing units. The effects of the new urban growth pattern that may result from the RCP as well as implementation of the other components of the RCP are addressed in this program PEIR.

1.5 Affected Environments

The existing environmental setting is discussed in Section 4.0 of the PEIR. Additionally, each environmental analysis section (5.1 through 5.12) includes an existing conditions discussion specific to the environmental issue area being analyzed.

The San Diego region includes three general physiographic regions: coastal, mountain, and desert. The highest population densities are found in the western third (coastal) of the region where topography and mild coastal climatic conditions have attracted intensive development. Consequently, existing development and transportation is most concentrated in the populated coastal area.

1.6 Environmental Impacts and Cumulative Impacts

Sections 5.1.4 through 5.12.4 of the PEIR present the impact analysis for the RCP. The analysis for each issue area includes a plan-to-ground and a plan-to-plan analysis. The plan-to-ground analysis considers the impacts of the RCP to the current environmental conditions that exist “on the ground” as of the Notice of Preparation (NOP) date for this project (January 30, 2004) and provides the basis for the required CEQA analysis. The plan-to-plan analysis compares the RCP with the existing land use plans for the San Diego region.
Figure 1.4-1
SMART GROWTH OPPORTUNITY AREAS*
March 2004

1/4 mile buffer on Regional Transit Service Corridors Capacity Data Area
Potential Capacity

*Additional smart growth opportunity areas that meet smart growth principles could also be included (See Chapter 4a of the RCP).
Table 1.6-1, located at the end of this section, provides a summary of environmental impacts resulting from implementation of the RCP. The PEIR determined that the RCP would result in significant project-level impacts to: land use, population/housing, visual resources, transportation/circulation, air quality, noise, energy, geology/paleontology, hydrology/water resources, biological resources, cultural resources, and public services/utility systems. Table 1.6-1 identifies mitigation measures which will reduce many of these impacts to below a level of significance. However, the issue areas of land use, regional and local population, regional and local housing, regional density increase, localized transportation/circulation, energy, biological resources, and cultural resources cannot be reduced to below a level of significance. These impacts will remain significant and unmitigated. Implementation of the RCP contributes to cumulative impacts in the following issue areas: land use, visual resources, transportation/circulation, air quality, noise, energy, geology/paleontology, hydrology/water resources, biological resources, cultural resources, and public services/utility systems. Although the RCP provides substantial reductions to these impacts as a result of the smart growth policies, cumulative impacts will still occur.

1.7 Alternatives Summary and Environmentally Superior Alternative

Chapter 6.0 of this PEIR considers four alternatives to the RCP. These include the (1) No Project/Existing Plans Alternative, (2) Smart Growth Opportunity Area (SGOA) – Reduced Intensity Alternative, the (3) Smart Growth Opportunity Area – Increased Intensity Alternative, and the (4) Urban Growth Boundary Alternative.

The No Project/Existing Plans Alternative is required by CEQA. The SGOA – Reduced Intensity and the SGOA – Increased Intensity Alternatives were selected to represent the scenarios when a smaller or greater portion of the exported units are captured within potential smart growth opportunity areas. The Urban Growth Boundary Alternative was considered based on comments received on the NOP. These alternatives were evaluated to reduce one or more of the significant impacts identified for the Proposed Project.

No Project/Existing Plans Alternative

This alternative assumes that the proposed RCP would not be adopted and implemented. Under this alternative, less smart growth development would occur in the region because no "smart growth opportunity areas" would be designated by the RCP, and no infrastructure funds would be specifically directed toward these opportunity areas to encourage smart growth development. As a result, fewer efforts would be made
Executive Summary

regionally or by local jurisdictions to capture the approximately 46,000 units. Instead, the San Diego region would be developed according to the general plans as well as other adopted policies and programs of the 18 cities and county government. The City of Villages (City of San Diego), updated General Plans being proposed by the County of San Diego and the City of Chula Vista will, subject to their adoption, implement smart growth in a piece-meal fashion when contrasted to the RCP.

Implementation of this alternative would result in significant impacts in the following issue areas: housing, visual resources, regional transportation/circulation, air quality, noise, energy, geology/paleontology, biological resources, cultural resources, and public services/utilities. However, in all of these issue areas, with the exception of regional housing, transportation/circulation, air quality, energy, and biological resources impacts under this alternative would be less severe than those identified for the Proposed Project.

Smart Growth Opportunity Area – Reduced Intensity Alternative

This alternative is analyzed within this PEIR as a means of reducing localized impacts associated with land use, visual quality, transportation, air quality, noise, and public services/utility systems. This alternative would meet the four project objectives. Specifically, this alternative would identify a preferred approach for regional growth that will allow the region to capture some of the housing units that are expected to be exported from the region. This alternative would encourage sustainable development by making land use decisions and infrastructure investments that are good for the environment. This alternative would also support "smart growth" through the prioritization of regional transportation funds. Finally, this alternative would achieve fairness and equity in regional planning and development processes.

This alternative assumes that the basic goals, policy objectives, and actions of the RCP would be adopted; however, the future implementation strategies, funding, compacts between jurisdictions, and general plans of the 18 cities and county government would target capture of approximately 25,000 housing units instead of the 46,000 units identified for the Proposed Project. Although this alternative would result in approximately 21,000 fewer housing units in the San Diego region compared to the Proposed Project, these 21,000 housing units would likely be developed in adjoining Baja California, Riverside County, Orange County, and Imperial County, with many of the residents of these exported units still commuting into San Diego County for employment.
Executive Summary

Implementation of this alternative would result in a similar type of impact as identified for the Proposed Project with a similar requirement to mitigate. Significant impacts were identified for the following issue areas: land use, housing, visual resources, regional and localized transportation/circulation, air quality, noise, energy, geology/paleontology, biological resources, cultural resources, and public services/utilities. However, in many of these issue areas under this alternative would be less severe than those identified for the Proposed Project.

Smart Growth Opportunity Area – Increased Intensity Alternative

This alternative assumes that the basic goals, policy objectives, and actions of the RCP would be adopted; however, the future implementation strategies, funding, compacts between jurisdictions, and general plans of the 18 cities and county government would target capture of approximately 75,000 housing units instead of the 46,000 units identified for the Proposed Project. This alternative would result in approximately 29,000 more housing units in the San Diego region compared to the proposed project. The development of these additional 29,000 housing units within smart growth opportunity areas and other targeted areas in the region would reduce the number of housing units that would need to be built in adjoining Baja California, Riverside County, Orange County, and Imperial County and to serve the San Diego region's workforce.

Implementation of this alternative would result in significant impacts in the following issue areas: land use, population and housing, visual resources, regional and localized transportation/circulation, air quality, noise, energy, geology/paleontology, biological resources, cultural resources, and public services/utilities. Additionally, in many of these issue areas under this alternative the magnitude of the impacts would be more severe than those identified for the Proposed Project. This alternative would meet the demand for future housing needs better than the Proposed Project.

Urban Growth Boundary Alternative

This alternative is analyzed within this PEIR in response to comments received during the NOP period. This alternative identifies an urban-growth boundary for the San Diego region. An urban growth boundary delineates the limits of urban growth to create a clear edge of where urban-scale development can and cannot occur. Urban growth boundaries are usually considered long-term growth-management tools.
The boundary considered in this alternative coincides with the existing San Diego County Water Authority (SDCWA) service area boundary. The boundary extends from the international border with Mexico in the south to Orange and Riverside counties in the north. The Pacific Ocean forms the western edge of the boundary and the coastal foothills generally provides the eastern boundary. Under this alternative, future urban development within the San Diego region would be contained within the SDCWA service area boundary. Additionally, the 46,000 “captured” housing units identified as part of the Proposed Project would also be developed within the SDCWA service area boundary. The boundary includes the 18 incorporated cities in San Diego, as well as the unincorporated communities of Valley Center, Fallbrook, Ramona, Alpine, and Lakeside.

This alternative assumes that the basic goals, policy objectives, and actions of the RCP would be adopted, with the main difference being that the captured units would not specifically be developed in the SGOA identified for the Proposed Project, but rather dispersed within the SDCWA service area boundary.

Implementation of this alternative was determined to have the following significant impacts: land use, population and housing, visual resources, regional transportation/circulation, air quality, noise, energy, geology/paleontology, hydrology/water quality, biological resources, cultural resources, and public services/utility systems. Since this alternative would result in the same increase in population and housing, many of the service system impacts would be similar to the Proposed Project. Under this alternative, impacts to transportation/circulation, air quality, and biological resources are expected to be more impactive than the Proposed Project. This alternative may result in an improvement in localized traffic for those areas that would be outside the future urban growth boundary.

Alternatives Comparison

Table 1.7-1 provides a comparison of impacts by issues area for each alternative. Detailed analysis of each environmental issue area is discussed in Section 6 of the PEIR. Generally, each alternative has been compared and ranked 1 through 5 as “no impact” to “much greater impact”. The Proposed Project was ranked “3” for all issues. The alternatives were compared to the impact characterized for the Proposed Project, and a ranking was identified. Based upon this generalized numerical rating system, both the Proposed Project and the SGOA-Reduced Intensity Alternative were determined to be the Environmentally Superior Alternative because they both have a similar level of impacts.
overall. Thus, the Proposed Project and SGOA – Reduced Intensity Alternative are equally ranked for designation as environmentally superior.

Table 1.7-1
Comparison of Impacts by Alternative

<table>
<thead>
<tr>
<th>Issues Area</th>
<th>Proposed Project (RCP)</th>
<th>No Project/Existing Plans</th>
<th>Reduced Intensity Alternative</th>
<th>Increased Intensity Alternative</th>
<th>Urban Growth Boundary</th>
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Note:
Comparison is made in terms of the Proposed Project.
1 = No Impact
2 = Less Impact
3 = Comparable to Proposed Project
4 = Greater Impact
5 = Much Greater Impact

a = Ranking established as 4 due to the lower population, housing unit, and density increases compared to the Proposed Project and the fact that the regional housing demand will not be met at the same level as the Proposed Project by implementation of this alternative.
b = Ranking established as 3 due to the higher population, housing, and density increases compared to the Proposed Project and the fact that this alternative will better meet the regional housing demands compared to the Proposed Project.
c = Ranking established as 3 due to the similar increase in population, housing, and density compared to the Proposed Project.
1.8 Other CEQA Considerations

Chapter 8.0 of the PEIR addresses other topics required by CEQA.

**Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented**

Implementation of the RCP would result in unavoidable, significant, and irreversible environmental impacts in the following issue areas: land use, regional and local population, regional and local housing, regional density increase, localized transportation/circulation, energy, biological resources, and cultural resources.

Program level mitigation measures are included in this PEIR, including mitigation measures for land use, transportation/circulation biological resources, and cultural resources. Even with implementation of these mitigation measures, transportation/circulation, biological resource, and cultural resource impacts will remain significant and unmitigated. Although the RCP has provided substantive policies to reduce the impacts of population/housing and the associated energy consumption, population levels will grow at such a rate that CEQA defines these impacts as significant. There are no feasible mitigation measures for the population/housing and energy resource impacts.

**Significant Irreversible Environmental Change Which Would be Caused by the Proposed Project**

Implementation of the RCP would result in permanent changes to the existing environment. While the RCP focuses development into existing urban areas and along existing or future transportation corridors, there will still be some conversion of undeveloped land to urbanized uses. These conversions are considered to be a permanent change, and would occur directly through construction of development on undeveloped land. Additionally, construction of future projects in developed areas as part of the RCP would result in localized impacts to the circulation network that are not likely to be able to be mitigated due to various issues (e.g., engineering, community character, socioeconomic, loss of housing/employment, and economic feasibility). Future development projects associated with the RCP would result in a direct loss of native habitat that supports rare, threatened or endangered species, and impacts to these resources would represent a significant and irreversible environmental change.
Executive Summary

Future development projects will require the use of non-renewable energy resources for project construction. This includes the burning of fossil fuels for construction equipment. The use of these non-renewable energy resources is considered to incrementally add to the loss of these resources, however, the impact imparted by the Proposed Project is less than significant.

Growth Inducing Impacts of the RCP

A project is defined as growth inducing when it directly or indirectly fosters economic growth, population growth, or additional housing; when it removes obstacles for growth; and/or when it encourages or facilitates other activities that could significantly affect the environment (CEQA Guidelines Section 151262(d)). Growth inducement is generally dependent on the presence or lack of existing utilities, and municipal or public services. The provisions of roadways, utilities, water, and sewer service to a previously unserviced area can induce growth by removing impediments to development. Once services are extended into a project area, economic pressures to develop are anticipated. This is often characterized as urban sprawl. In addition, growth inducement can be defined as growth that makes it feasible to increase the density of development in the surrounding areas.

One of the primary goals of the Regional Comprehensive Plan (RCP) is to increase the number of housing units within identified Smart Growth Opportunity Areas (SGOA) in San Diego County. Therefore, by its very nature (increasing the density of development), the RCP is growth inducing. However, the area the RCP targets for construction of these additional housing units is within existing developed areas. Therefore, it is likely that many SGOA have already established roadways and utilities, as well as water and sewer services. The placement of additional housing units in established areas may require upgrading and resizing of existing infrastructure, including water facilities. The goal of the RCP is to direct population growth in proximity to the projected job base by providing additional housing. Therefore, implementation of the RCP is growth inducing.

1.9 Areas of Controversy and Issues to be Resolved

Information from the nearly 40 community workshops was compiled into a series of workshop summaries and evaluations prepared by SANDAG. Issues that raised points of controversy included the regional coordination aspect of the RCP, as well as comments related to general planning, transportation and urban form. Section 2.5 of the PEIR expands on these issues. Additionally, the SANDAG Board will need to consider the following when they make a decision on the Proposed Project:
Executive Summary

- Determine if the Proposed Project or any of the project alternatives should be adopted. The RCP would recommend smart growth strategies that may not be acceptable in some communities.

- Determine if mitigation measures adequately address land use, visual resource, transportation/circulation, air quality, noise, geology/paleontology, hydrology/water resource, biological resource, cultural resource, and public services/utility system impacts.

- Determine if the positive benefits of the RCP outweigh the unavoidable significant impacts.
**Executive Summary**

**Table 1.6-1**  
Summary of Environmental Impacts, Mitigation Measures, and Significance Conclusion

<table>
<thead>
<tr>
<th>Results of Impact Analysis</th>
<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Use – See Section 5.1</strong></td>
<td>LU-1: Local jurisdictions shall adopt land use plan amendments, including general plan amendments, local coastal program amendments and an amendment to the Port Master Plan to eliminate inconsistencies between future land uses and densities identified in these plans, compared to future land uses and densities identified in the RCP.</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td>Implementation of the RCP could result in a significant conflict with the land use planning documents for several jurisdictions in the San Diego region. These documents include general plans, Local Coastal Programs, and the Port Master Plan.</td>
<td></td>
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</tr>
<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
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<tr>
<td>If future development occurred in a manner consistent with the existing adopted land use plans, the land use inconsistency issue would be less than significant.</td>
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</tr>
<tr>
<td>Future development will result in significant impacts from conversion of undisturbed vacant land, agricultural land, open space and other natural resources to urban uses from a plan-to-ground perspective. From a plan-to-plan perspective, implementation of the RCP would reduce the amount of land used to accommodate the same population levels. This would be a beneficial effect. While implementation of the RCP would result in less conversion of open space land than would occur without the RCP, it would result in some unavoidable impacts to these resources.</td>
<td></td>
<td></td>
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<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
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<tr>
<td>If future development occurred in a manner consistent with the existing adopted land use plans, it is expected that more vacant land would be converted to urban uses compared to implementation of the RCP. Therefore, compared to the existing plans, the RCP reduces impacts.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LU-2: Local jurisdictions shall discourage conversion of agricultural lands outside of planned urbanized areas. Where proposed development significantly conflicts with established agricultural operations, appropriate buffers or other measures shall be incorporated into the project design to reduce land use incompatibility to below a level of significance.</td>
<td></td>
<td>Significant, Unmitigated</td>
</tr>
<tr>
<td>Bio-1, Bio-6, and Bio-7 (see below)</td>
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Deleted: and provide buffers to reduce land uses that would affect the viability of continued agricultural activities.
### Executive Summary

#### Results of Impact Analysis

<table>
<thead>
<tr>
<th>Impact of RCP</th>
<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
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<tbody>
<tr>
<td>Implementation of the RCP may result in a significant indirect impact to lands currently under mineral resource extraction that fall within the identified SGOA. These resource extraction area lands may realize a better and higher use with implementation of the RCP.</td>
<td>LU-3: Local jurisdictions shall discourage conversion of MRZ-2 lands until the existing mineral resources on that land have been exhausted, or are no longer economically feasible to process or market.</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
</tbody>
</table>

**Comparison to No Project/Existing Plans**

Indirect impacts to mineral resource lands currently under extraction would be less than significant under the No Project/Existing Plans.

| Implementation of the RCP could result in development that is incompatible with existing development or land uses. Higher densities can result in the location of incompatible land uses, or result in increased noise conditions. | LU-4: Project-level noise impact analysis shall be performed, where appropriate, to ensure that changes in land uses and densities do not result in significant noise conflicts or impacts. Noise mitigation measures recommended in these analyses shall be implemented that reduce impacts associated with land use incompatibility. Noise levels shall be to the levels established by each jurisdiction for the appropriate land use. | Mitigated to Below a Level of Significance |

**Comparison to No Project/Existing Plans**

If future development occurred in a manner consistent with the existing adopted land use plans, it is expected that development would generally be compatible with existing development and land uses. Therefore, the land use compatibility issue would be less than significant.

| Implementation of the RCP could physically divide an established community through creation of multiple nodes in areas where one node exists. This represents a significant impact. | LU-5: An Urban Design Best Practices manual shall be prepared by SANDAG to establish site-specific measures to reduce land use incompatibilities (divide an established community, noise, hazards, lighting, objectionable odors or other operational activities). | Mitigated to Below a Level of Significance |

**Comparison to No Project/Existing Plans**

If future development occurred in a manner consistent with existing adopted land use plans, it is still possible that development would result in divisions to existing communities.
### Executive Summary

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<thead>
<tr>
<th>Results of Impact Analysis</th>
<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population/Housing/Employment – See Section 5.2</strong></td>
<td>There are no feasible or practicable mitigation measures to reduce the significant impacts. The physical changes for those impacts are addressed in the applicable mitigation sections.</td>
<td>Significant, Unmitigated</td>
</tr>
<tr>
<td>At the regional and local level, implementation of the RCP would result in significant population and housing impacts. <strong>Comparison to No Project/Existing Plans</strong> Since the significance criteria define an impact as an increase in population, housing, or employment above the existing adopted land use plans, development in accordance with these plans would not result in a significant impact.</td>
<td></td>
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<tr>
<td><strong>Implementation of the RCP will result in a significant increase in regional density.</strong></td>
<td>There are no feasible or practicable mitigation measures to reduce the significant impact. The population and housing increase associated with the project results in increased density.</td>
<td>Significant, Unmitigated</td>
</tr>
<tr>
<td><strong>Visual Resources – See Section 5.3</strong></td>
<td><strong>Vis-1:</strong> Design projects to minimize contrasts in scale and massing between the project and surrounding natural forms and developments. Avoid large cuts and fills when the visual environment (natural or urban) would be substantially disrupted. Site or design projects to minimize their intrusion into important viewsheds and use contour grading to better match surrounding terrain. <strong>Vis-2:</strong> Use natural landscaping to minimize contrasts between the project and surrounding areas. Develop interchanges and transit lines at the grade of the surrounding land to limit view blockage. Contour the edges of major cut and fill slopes to provide a more natural looking finished profile. <strong>Vis-3:</strong> Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard-edged, linear travel experience that would otherwise occur.</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td>Future development along identified and eligible scenic highway corridors could include buildings which are visible from the highway, and are out of scale with the surrounding built environment. <strong>Comparison to No Project/Existing Plans</strong> Development along identified and eligible scenic highway corridors would still be possible under existing plans; therefore, impacts would be comparable to the RCP.</td>
<td></td>
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Deleted: Each agency is legally mandated to accept a certain amount of housing and the associated population growth. Thus, it is not feasible from a legal standpoint to not accept that growth. From a regional perspective, population growth is generated from births and immigration. This increase in population cannot be legally controlled by local government agencies.
### Executive Summary

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<thead>
<tr>
<th>Results of Impact Analysis</th>
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<tbody>
<tr>
<td>Vis-4: Replace and renew landscaping along corridors with road widenings, interchange projects, and related improvements. Plan landscaping in new corridors to respect existing natural and man-made features to complement the dominant landscaping of surrounding areas.</td>
<td>Vis-4: Replace and renew landscaping along corridors with road widenings, interchange projects, and related improvements. Plan landscaping in new corridors to respect existing natural and man-made features to complement the dominant landscaping of surrounding areas.</td>
<td>Mitigated to Below a Level of Significance</td>
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<tr>
<td>Vis-5: Construct soundwalls of materials whose color and texture complements the surrounding landscape and development. Use color, texture, and alternating facades to “break up” large facades and provide visual interest.</td>
<td>Vis-5: Construct soundwalls of materials whose color and texture complements the surrounding landscape and development. Use color, texture, and alternating facades to “break up” large facades and provide visual interest.</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td>Increased density in existing neighborhoods may result in buildings that are of different bulk and scale than existing structures. Depending on the buildings’ location and design, the construction of larger buildings within an already established community would result in a significant visual resource impact.</td>
<td>Vis-1</td>
<td>Mitigated to Below a Level of Significance</td>
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<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
<td>Development in neighborhoods would still be anticipated under existing plans; however, it is anticipated that development under these plans would be less impactive from a density perspective compared to the RCP.</td>
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<tr>
<td>Depending on the location and height of future development adjacent to oceans or bays, the potential exists that public and private views to these scenic resources may be substantially altered. This represents a significant visual resource impact.</td>
<td>Vis-1 through Vis-5</td>
<td></td>
</tr>
<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
<td>Development adjacent to the oceans or bays would still be possible under existing plans, however, it is anticipated that development under these plans would be less impactive from a bulk and scale perspective compared to the RCP.</td>
<td></td>
</tr>
<tr>
<td>Future development in the region, over the lifetime of the RCP, will result in regionally increase in the amount of light pollution. This represents a significant visual resource impact.</td>
<td>Vis-7: Incorporate design measures into the Urban Design Best Practices Manual to reduce glare and lighting impacts to observatories. This shall include regulations for shielding, intensity of lighting (number of lumens) and wavelengths.</td>
<td>Mitigated to Below a Level of Significance</td>
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<tr>
<td><strong>Deleted:</strong> For future use of visual shall be used</td>
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## Executive Summary

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<tr>
<th>Results of Impact Analysis</th>
<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
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<tbody>
<tr>
<td><strong>Future development over the lifetime of the adopted land use plans will result in a regional increase in the amount of light pollution. The level of impact is similar to those anticipated under the RCP.</strong></td>
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<tr>
<td><strong>Transportation/Circulation – See Section 5.4</strong></td>
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<tr>
<td>Implementation of the RCP would have significant transportation and circulation impacts on and localized roadways due to increased density.</td>
<td><strong>Trans-1:</strong> Future development projects will be required to address localized traffic impacts as part of the environmental review process. Mitigation for these local impacts will be in conformance with the adopted policies of the lead jurisdiction. Mitigation measures shall include congestion management strategies identified in SANDAG’s Congestion Management Strategies (CMS) Toolbox as summarized in Table 5.4-4 of the PEIR.</td>
<td>Significant, Unmitigated</td>
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<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
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<tr>
<td>If development occurred in accordance with existing approved land use plans, it would likely result in significant adverse impacts to regional and local transportation systems. However, the impact might be less than the Proposed Project in some localized areas due to the lower planned density of development.</td>
<td><strong>Trans-2:</strong> Local jurisdictions shall adopt Circulation Element amendments to eliminate inconsistencies related to future roadway and intersection improvements associated with the RCP.</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td>Implementation of the RCP may result in a potentially significant conflict with the Circulation Elements for several jurisdictions in the San Diego region.</td>
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<td><strong>Comparison to No Project/Existing Plans</strong></td>
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<tr>
<td>If future development occurred in a manner consistent with the existing adopted circulation plans, the circulation element inconsistency issue would be less than significant.</td>
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<tr>
<td><strong>Air Quality – See Section 5.5</strong></td>
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<tr>
<td>Construction activities associated with the RCP could significantly impact the region’s air quality with NOx emissions released from construction equipment, PM10 emissions related to grading and earth moving activities, and increased vehicle trips by construction workers traveling to and from construction sites.</td>
<td><strong>Air-1:</strong> For projects that exceed daily construction emissions established by SDAPCD, Best Available Control Measures (BACMs) shall be incorporated to reduce construction emissions to below daily emission standards established by SDAPCD. Appropriate BACMs will be determined on a project by project basis, and are specific to the pollutant for which the daily threshold has been exceeded. BACMs that may be appropriate for construction activities that exceed daily ROG thresholds include using precoated building materials, using high pressure/low volume paint applicators, and using lower volatility paint. BACMs that may be</td>
<td>Mitigated to Below a Level of Significance</td>
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<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
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<tr>
<td>Future development could still occur under existing adopted land use plans; however, it is anticipated that development under those plans would be reduced, which could result in less overall construction.</td>
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**Regional Comprehensive Plan PEIR**

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## Executive Summary

### Results of Impact Analysis

<table>
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<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
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<tr>
<td>appropriate for construction activities that exceed daily CO, NO\textsubscript{x}, or SO\textsubscript{x} thresholds include phasing of construction activities.</td>
<td>Mitigated to Below a Level of Significance</td>
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</tbody>
</table>

Increased density could increase the volume of traffic flow at some existing intersections which could potentially increase the number of vehicles that are idling at roadway intersections releasing emissions and causing CO concentrations to exceed state and federal standards. This could expose sensitive receptors to localized hot spots, creating a significant air quality impact.

**Comparison to No Project/Existing Plans**

Future development could still occur under existing adopted land use plans, which could result in traffic increases and hot spots. After mitigation, impacts from the RCP and the existing adopted land use plans would be about the same.

### Noise – See Section 5.6

Transportation improvements associated with the RTP could increase the number of trucks, buses, and trains, which generate more noise per vehicle than automobiles. Furthermore, decreasing congestion would allow vehicular traffic on freeways and major arterials to move faster, increasing the noise produced by traffic in that corridor. Proposing new receptors in the noise impact zone would result in significant impacts.

**Comparison to No Project/Existing Plans**

Future development could still occur under existing adopted land use plans, and would also have the potential to propose sensitive receptors within noise impact zones. After mitigation, impacts from the RCP and the existing adopted land use plans would be about the same.

**Noise-1:** Site planning shall be conducted in a manner that avoids impacts to noise sensitive areas (e.g., residences, hospitals, schools, libraries) and sensitive receptors. Sensitive receptors include both humans and noise-sensitive wildlife species. Typical noise mitigation includes either provision of buffers or noise attenuation features. The distance between the noise source and the sensitive receptors shall be adequate to reduce noise levels to acceptable levels (CNEL identified in local land use plan for humans, or generally accepted dBA for wildlife species) or other noise attenuation techniques, such as sound walls or landscaping may be used to reduce noise impacts to levels that are consistent with the local jurisdiction’s requirements.

**Noise-2:** Land use measures such as zoning designations shall be adopted for future development on land adjacent to

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**Deleted:** Construction activities shall be phased to reduce construction emissions to below daily emissions standards established by the Air Pollution Control District.

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**Deleted:** Noise-1: Site planning shall consider and avoid noise sensitive areas and reduce noise and vibration levels by maximizing distance to sensitive receptors (human or wildlife) or incorporating acoustical barriers.
## Results of Impact Analysis

| Noise-1 through Noise-5 Mitigated to Below a Level of Significance |
|-------------------|-----------------|------------------|
| Transportation facilities to avoid noise and vibration impacts. |
| **Noise-3:** Where other methods are impractical, operational constraints shall be imposed (e.g., limits on vehicle speed, regulation of train horns). Operational constraints shall reduce the noise to the levels established by each jurisdiction for the appropriate land use. |
| **Noise-4:** Avoid noise and vibration impacts by the careful siting of facilities and the use of noise-reducing berms, walls, or other barriers as deemed appropriate by local lead agency. |
| **Noise-5:** Improve architectural treatment (sound-proofing) to reduce interior noise. |

### Comparison to No Project/Existing Plans

**High density areas** will potentially be subjected to elevated noise levels due to the proximity of dwelling units to transportation systems. This represents a significant impact.

**Comparison to No Project/Existing Plans**

If future development occurred in accordance with existing adopted land use plans, it is anticipated that there would be fewer high density areas. Therefore, under those plans, it is likely that there would be fewer noise impacts resulting from a high density of development. However, after mitigation, impacts from the RCP and the existing adopted land use plans would be about the same.

**Developments that take place within the noise contours of existing airports** would have a significant impact as a result of their location.

**Comparison to No Project/Existing Plans**

Future development could still occur under existing adopted land use plan, which could include proposing developments within the noise contours of existing airports. After mitigation, impacts from the RCP and the existing adopted land use plans would be about the same.

**Noise-6:** Future development projects that are located in the vicinity of regional airports shall consider noise mitigation conditions recommended in the appropriate airport Comprehensive Land Use Plan.

| Noise-1, Noise-2 and Noise-5 Mitigated to Below a Level of Significance |
|-------------------|-----------------|------------------|
| Deleted: Avoid noise and vibration impacts by the careful siting of facilities and the use of noise-reducing berms, walls, or other barriers.
### Executive Summary

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<tr>
<th>Results of Impact Analysis</th>
<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
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<tbody>
<tr>
<td>Increases in rail traffic could lead to more train horns or whistles at crossings near residential areas, which can be a source of annoyance, especially at night or in early morning or evening. Proposing new receptors in the noise impact zone would result in significant noise impacts.</td>
<td>Noise-1 through Noise-5</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
</tbody>
</table>

**Comparison to No Project/Existing Plans**

Future development could still occur under existing adopted land use plans, which could include proposing new receptors in noise impact zones. After mitigation, impacts from the RCP and the existing adopted land use plans would be about the same.

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<tr>
<th>Results of Impact Analysis</th>
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<tbody>
<tr>
<td>Increasing intermodal transportation of goods would result in a subsequent increase in noise and vibration in areas adjacent to rail corridors. Additional localized impacts could occur as a result of construction activities (e.g., pile driving) or rail activities. Proposing new receptors in the noise impact zone would result in significant noise impacts.</td>
<td>Noise-1 through Noise-5</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
</tbody>
</table>

**Comparison to No Project/Existing Plans**

Future development could still occur under existing adopted land use plans; however, because development would likely be less dense under those plans, it is anticipated that fewer sensitive receptors would be proposed within noise impact zones.

**Energy – See Section 5.7**

Implementation of the RCP and associated regional growth during future developments would result in an increased amount of non-renewable energy consumption throughout the region. Even with the policy goals and objectives included as part of the RCP, energy consumption associated with regional growth would likely exceed 3 percent of non-renewable energy resources.

**Comparison to No Project/Existing Plans**

Energy consumption would be less with implementation of the RCP when compared to the energy consumption associated with

<table>
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<tr>
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<th>Significance Conclusion</th>
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<tbody>
<tr>
<td>There are no feasible mitigation measures to reduce the increase of energy consumption associated with regional growth because there are no effective ways to reduce population growth. The RCP has already included specific goals and objectives that reduce the consumption of non renewable energy. These include increased reliance on mass transit, reduce average vehicle miles traveled, energy efficiency, promote renewable sources of energy and encourage energy efficiencies.</td>
<td>Noise-1 through Noise-5</td>
<td>Significant, Unmitigated</td>
</tr>
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</table>
### Regional Comprehensive Plan PEIR

**Results of Impact Analysis**

<table>
<thead>
<tr>
<th>Geology/Paleontology – See Section 5.8</th>
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<tbody>
<tr>
<td>The implementation of the RCP would result in development occurring within geologic formations with moderate to high paleontological resource potential. This represents a significant impact.</td>
</tr>
</tbody>
</table>

**Comparison to No Project/Existing Plans**

Development in the San Diego region, whether guided by existing land use plans or the proposed RCP, will significantly impact geologic formations with medium to high paleontological resource potential.

**Mitigation Measures**

| Paleo-1: | When a construction activity will significantly disturb the unweathered bedrock in areas identified as having a moderate or high potential to support paleontological resources, a qualified researchers must be stationed on site to observe grading operations and recover scientifically valuable specimens. A certified paleontologist shall be retained (or required to be retained) by the project implementing agency prior to construction to establish procedures for surveillance and pre-construction salvage of exposed resources if fossil-bearing rocks have the potential to be impacted. The monitor shall provide pre-construction coordination with contractors, oversee original cutting in previously undisturbed areas of sensitive formations, halt or redirect construction activities as appropriate to allow recovery of newly discovered fossil remains, and oversee fossil salvage operations and reporting. This measure shall be placed as a condition on all grading plans where grading is proposed in geologic units defined as having a moderate or high potential for containing fossils. |

**Significance Conclusion**

Mitigated to Below a Level of Significance

### Hydrology/Water Resources – See Section 5.9

Development associated with the RCP could cause erosion due to exposed graded surfaces, excavation, stock piling, or boring, and would potentially contribute to the sediment load in surface waters, potentially creating significant impacts.

**Comparison to No Project/Existing Plans**

Development is anticipated to occur in the San Diego region, under the existing plans or under the RCP, and is anticipated to have adverse impacts associated with graded surfaces, excavation, stock piling, and boring. The amount of development under the RCP is anticipated to be more condensed than under existing plans; therefore, the impact may be less than what would occur under the existing adopted land use plans.

**Mitigation Measures**

| Water-1: | In areas where habitat for fish and other wildlife would be threatened by development, alternate drainageways shall be sought to protect sensitive fish and wildlife populations. Heavy-duty sweepers, with disposal of collected debris in sanitary landfills, shall be used to effectively reduce annual pollutant loads. Catch basins and storm drills shall be cleaned and maintained on a regular basis. |

**Significance Conclusion**

Mitigated to Below a Level of Significance

**Deleted:** project

**Deleted:** involves known fossil-bearing rocks of
### Results of Impact Analysis

| Development associated with the RCP would result in increased impervious surfaces that would allow pollutants to accumulate on paced surfaces that would be flushed down storm drains and into the aquatic environment (i.e., lagoons, rivers, and lakes). This would constitute a significant impact. |

| Increased demand for ground water resources created by implementation of the RCP could significantly impact existing ground water resources. |

| Increased runoff resulting from developments associated with the RCP could overwhelm the existing local stormwater drainage systems. This is a significant impact that will require mitigation at the project level. |

| Comparison to No Project/Existing Plans |

| Development is anticipated to occur in the San Diego region, under the existing plans or under the RCP, and is anticipated to have adverse impacts associated with increased impervious surfaces. The development under the RCP is anticipated to be more compact than under existing plans; therefore, the impact may be less than what would occur under the existing adopted land use plans. |

| Comparison to No Project/Existing Plans |

| Because the amount of development and the increase in population under the RCP is anticipated to be greater than under existing plans, the demand for ground water resources may be greater than what would occur under the existing adopted land use plans. |

| Comparison to No Project/Existing Plans |

| Because the amount of development and the increase in population under the RCP is anticipated to be more than under existing plans, the impacts to the existing stormwater drainage systems may be greater than what would occur under the existing adopted land use plans. |

### Mitigation Measures

| Water-1 and Water-2 |

| Water-3: Project proponents would be required to employ measures that may include decreasing water demand for the project or reducing water use elsewhere in the same groundwater basin as determined by the local agency. Water districts relying upon groundwater may incorporate ground water recharge or other types of safe yield strategies to maintain adequate groundwater table elevations. Future developments that depleted existing ground water resources would require ground water recharge programs to maintain adequate ground water table elevations. |

| Mitigated to Below a Level of Significance |

| Mitigated to Below a Level of Significance |

| Water-1 and Water-2 |

| Deleted: Future developments that depleted existing ground water resources would require ground water recharge programs to maintain adequate ground water table elevations. |
### Executive Summary

<table>
<thead>
<tr>
<th>Results of Impact Analysis</th>
<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
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</thead>
<tbody>
<tr>
<td><strong>Biological Resources – See Section 5.10</strong></td>
<td></td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td>Future growth, including transportation projects, could potentially result in an impediment to regional wildlife movement due to habitat fragmentation; however, these regional impacts could be avoided through conditions required in adopted subarea plans. Local wildlife corridors would be affected by future growth that would not necessarily be avoided through the subarea plans. This represents a significant impact.</td>
<td>Bio-1: Design development projects to minimize or eliminate impacts to natural habitats and known sensitive resources. Development within large contiguous areas of habitat shall be minimized to reduce fragmentation of remaining habitat areas. Bio-2: For development projects, provide for continued movement of ground-level wildlife across rights-of-way, where the project or regional conservation plan has identified wildlife corridors, through the use of appropriately-sized bridges or other openings where roads or transit features would create barriers. Bio-3: Biological mitigation shall be directed to areas that are proposed for conservation and that support similar or higher value habitat. These efforts shall be coordinated with resource agencies and regional habitat conservation and planning efforts. Bio-4: Minimize impacts to oak woodlands, vernal pools, estuaries, lagoons, and other regionally significant biotic resources; where unavoidable, replace with equal or better quality habitat to ensure no net loss of the resources. Bio-5: Site development to minimize alteration of streambeds and associated riparian vegetation; where unavoidable, replace with like quality or better habitat at a ratio required by regulatory agencies with the goal of no net loss to wetlands. Bio-6: Preserve open space areas identified in local, state and federal plans. Bio-7: Limit the disturbance to native vegetation to the</td>
<td>Deleted: where there are designated Deleted: Provide off-site Deleted: contiguous with areas of like resource to maximize the biological value of the habitat provided as mitigation.</td>
</tr>
<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
<td>Future growth anticipated under the adopted plans would still require additional transportation projects, which could result in a significant impact to regional wildlife movement corridors.</td>
<td></td>
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</table>
### Executive Summary

<table>
<thead>
<tr>
<th>Results of Impact Analysis</th>
<th>Mitigation Measures</th>
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<tbody>
<tr>
<td></td>
<td>extent practicable. Revegetate with native plants where appropriate, and, when possible, locate construction staging areas in previously disturbed areas.</td>
<td>Bio-8: Schedule the construction of projects to avoid impacts to wildlife (e.g., avoid breeding season for sensitive species) to the extent practicable. Project-specific review shall define specific mitigation measures, such as berms and sound walls, which would reduce construction and operational noise to within regulatory standards. Bio-9: Use appropriate water pollution control technology and best management practices to minimize or eliminate impacts to downstream aquatic systems.</td>
</tr>
<tr>
<td></td>
<td>Mitigated to Below a Level of Significance</td>
<td>Bio-1 through Bio-9</td>
</tr>
</tbody>
</table>

**Future water, sewer, and energy development projects are anticipated to have a significant impact on native vegetation, and may significantly impact regional and local wildlife movement corridors.**

**Comparison to No Project/Existing Plans**

Future growth anticipated under the adopted plans would still require additional sewer, water, and energy development projects, which would result in a significant impact on native vegetation.

**Comparison to No Project/Existing Plans**

Sand placement, as a means of shoreline preservation, can have a significant effect on wildlife nurseries. SANDAG is currently monitoring the effects of the regional beach sand project, and data indicate that no long term adverse impacts to marine biological resources have occurred since the project was completed (SANDAG 2003g).

**Comparison to No Project/Existing Plans**

Sand placement will occur with or without the RCP. Therefore, impacts are the same for the RCP and for existing adopted land use plans.

**Bio-10**: Ensure that future coastal projects are sited and designed as to minimize impacts to marine resources. Any unavoidable impacts to significant marine resources will be mitigated to below a level of significance in accordance with the requirements of the local jurisdiction and appropriate agency (e.g., CDFC, USFWS, NMFS).
### Results of Impact Analysis

<table>
<thead>
<tr>
<th>Results of Impact Analysis</th>
<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>The development of seawater desalination facilities as a means of diversifying the regional water supply has the potential to significantly affect marine biological resources.</td>
<td>Bio-10</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td><strong>Comparison to No Project/Existing plans</strong></td>
<td>Bio-9 and Bio-10</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td>The development of seawater desalination facilities is under consideration, and may proceed with or without the RCP. Therefore, impacts are the same for the RCP and for existing adopted land use plans.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts to aquatic resources could be potentially significant; however, through adherence to existing federal, state and local regulations (requiring no net loss) most of the impacts are considered reduced to below a level of significance. Some aquatic resources are not protected by existing federal, state and local regulations; thus, any impacts to those resources are significant.</td>
<td>Bio-10 through Bio-10</td>
<td>Significant, Unmitigated</td>
</tr>
<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future development projects under the existing land use plans also have the potential to significantly impact aquatic resources. The impacts are anticipated to be at a similar level to the RCP.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation of the RCP would likely result in a reduction of the number of rare, endangered, sensitive and/or special status plants and animals; thus, these impacts are significant and unmitigated. Site avoidance of all impacts to rare or endangered species can not be achieved in a regional plan. Because San Diego supports such a diversity of these resources, it is unavoidable that some individuals of some species would be lost as a result of providing housing and associated infrastructure.</td>
<td>Bio-1 through Bio-10</td>
<td></td>
</tr>
<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future development projects under the existing land use plans also have the potential to reduce the number of rare, endangered, sensitive and/or special status plants and animals. These impacts would be proportionally higher than the RCP, since the RCP focuses on compact development adjacent to transportation networks.</td>
<td></td>
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</tbody>
</table>
Executive Summary

<table>
<thead>
<tr>
<th>Results of Impact Analysis</th>
<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
</tr>
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</table>

### Cultural Resources – See Section 5.11

Due to the scale of the Propose Project, and the long history of Native American habitations in the region, future grading and construction activities associated with implementation of the RCP are expected to result in significant impacts to archaeological and historical resources along the identified SGOA.

#### Comparison to No Project/Existing Plans

Development under the existing land use plans would likely result in more impacts to archaeological resources, since more development would be located in vacant, undeveloped areas which may contain unknown archaeological resources. However, development under the existing plan would result in fewer impacts to historical resources, since redevelopment of existing urban areas is less represented in existing land use plans compared to that proposed under the RCP.

Cult-1: A review of literature and historic maps, a records search, and field survey to identify the presence or absence of cultural resources for each future development project shall be undertaken if the jurisdiction determines these studies are warranted. Prior to any development each cultural resource will need to be evaluated through testing programs to determine the significance/importance prior to determining mitigation of proposed impacts or providing recommendations for preservation. Historic resources may require analysis by a qualified historian or an architectural historian. Sites identified as significant/important will need to be avoided by development impacts or mitigated by completion of a data recovery program conducted in compliance with CEQA and agency guidelines. Site avoidance and preservation can include capping the site with gravel or construction fabric and 16 to 18 inches of sterile fill soil. Sites proposed for capping shall be indexed, so future researchers have reasonable knowledge of the resources that have been protected. Capped sites can be landscaped with native, shallow rooted plants that are compatible with the surrounding biologic habitat. Passive uses for capped sites include trails, picnic and play areas, parking lots, and tennis or volleyball courts. A data recovery program for archaeological sites consists of excavation of a percentage of the site (determined in consultation with the local agency) to provide information necessary to answer significant research questions.

Cult-2: Site planning shall emphasize avoidance of significant archaeological and historical resources.

Cult-3: For future development projects, lead agencies shall integrate curation of all archaeological and/or historical artifacts and associated records in a regional center focused...
Results of Impact Analysis | Mitigation Measures | Significance Conclusion
--- | --- | ---
on the care, management and use of archaeological collections. Artifacts include material recovered from all phases of work, including the initial survey, testing, indexing, data recovery, and monitoring. Curated materials shall be maintained with respect for cultures and available to future generations for research.

**Cult-4**: Include a measure in the Urban Design Best Practices Manual requiring the integration of significant historical resources into the design of future developments within the SGOA.

**Cult-5**: Local jurisdictions shall develop measures to encourage adaptive reuse of existing historical structures within the SGOA.

**Cult-6**: Significant historic structures and buildings that will be demolished as a part of future projects will need to be documented by a qualified architectural historian. A copy of the documentation will be retained by the local jurisdiction. When local jurisdictions have more strict standards regarding the treatment of historic structures, the local jurisdiction’s policies shall be used.

Future grading and construction activities associated with implementation of the RCP could result in significant impacts to human remains.

**Comparison to No Project/Existing Plans**
Development under the existing land use plans would likely have a higher potential to result in impacts to human remains, since more development would be located in vacant, undeveloped areas which may contain unknown archaeological resources.

**Cult-1 through Cult-3**

Mitigated to Below a Level of Significance
### Public Services/Utility Systems – See Section 5.12

<table>
<thead>
<tr>
<th>Results of Impact Analysis</th>
<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>The increase in population associated with implementation of the RCP may result in the need for new or expanded water facilities. This represents a significant impact.</td>
<td><strong>ServSys-1</strong>: Water, sewer/wastewater and landfill providers shall periodically update plans to ensure adequate facilities are available to meet projected locations and intensities of growth. <strong>ServSys-2</strong>: Future construction shall incorporate water efficient appliances (e.g., low-flush toilets and shower heads) and xeriscaping.</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development in accordance with the existing land use plans would increase population in the San Diego area, but the increase would be in a manner consistent with the adopted land use plan. This would reduce the potential significant impact relating to new and expanded water facilities to below a level of significance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The increase in population may result in a significant impact on water supply</td>
<td><strong>ServSys-1 and ServSys-2</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
<td><strong>ServSys-4</strong>: Future development projects will be required to prepare project-level environmental analyses, including an analysis of water supply and incorporate measures to reduce demand.</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td>Development in accordance with the existing plans would still result in a need for additional water in the service area supplied by MWD.</td>
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</table>
### Executive Summary

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<thead>
<tr>
<th>Results of Impact Analysis</th>
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<th>Significance Conclusion</th>
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</thead>
<tbody>
<tr>
<td>The increase in population associated with implementation of the RCP may result in the need for new or expanded sewer/wastewater treatment facilities. This represents a potentially significant impact. General population growth within San Diego County would require expansion of sewer/wastewater treatment facilities, but implementation of the RCP further increases the need for new or expanded facilities.</td>
<td>ServSys-1, ServSys-2, and ServSys-4</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
</tbody>
</table>

**Comparison to No Project/Existing Plans**

Development in accordance with the existing land use plans would increase population in the San Diego area and would require the construction of additional sewer/wastewater treatment facilities. Implementation of the RCP further increases the future population in the region and requires additional treatment facilities above and beyond those that would be required for future population growth under the approved land use plans.

| The increase in population associated with implementation of the RCP will result increase the rate of waste going to the landfill. Since many of the local landfills will reach capacity during the lifetime of the RCP, this represents a potentially significant impact. General population growth within San Diego County would require expansion of landfill facilities, but implementation of the RCP further increases the need for new or expanded facilities. | ServSys-1, ServSys-3 | Mitigated to Below a Level of Significance |

**Comparison to No Project/Existing Plans**

Development in accordance with the existing land use plans would increase population in the San Diego area and would require the construction of additional landfill and waste management facilities. Implementation of the RCP further increases the future population in the region and requires additional waste management facilities above and beyond those that would be required for future population growth under the approved land use plans.

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*Regional Comprehensive Plan PEIR*
Executive Summary

<table>
<thead>
<tr>
<th>Results of Impact Analysis</th>
<th>Mitigation Measures</th>
<th>Significance Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>The increase in population associated with implementation of the RCP results in the need for new or expanded school facilities. This represents a significant impact. General population growth within San Diego County would require the expansion of school facilities, but implementation of the RCP further increases the need for new or expanded facilities.</td>
<td><strong>ServSys-5:</strong> Future projects shall be required to pay School Mitigation Fees pursuant to California Education Code Section 17620 and Government Code Section 65995. These fees will assist in funding school services within the applicable school district.</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
<td>Development in accordance with the existing land use plans would increase population in the San Diego area and would require the construction of additional school facilities. Implementation of the RCP further increases the future population in the region and requires additional school facilities above and beyond those that would be required for future population growth under the approved land use plans.</td>
<td></td>
</tr>
<tr>
<td>The increase in population associated with implementation of the RCP will require new and expanded police and sheriff facilities and additional police officers and sheriff’s deputies. This represents a significant impact. General population growth within San Diego County would require the expansion of police and sheriff’s services, but implementation of the RCP further increases the need for new or expanded facilities.</td>
<td><strong>ServSys-6:</strong> Future projects shall be required to pay public facility finance fees in accordance with the requirements of the jurisdiction in which the project is proposed. These fees will assist in funding additional police, sheriff, and fire protection services, as well as expanding and park/recreation services.</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
<td>Development in accordance with the existing land use plans would increase population in the San Diego area and would require additional police/sheriff protection staff, as well as the construction of additional police/sheriff facilities. Implementation of the RCP further increases the future population in the region and requires additional public safety service providers above and beyond those that would be required for future population growth under the approved land use plans.</td>
<td></td>
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</tbody>
</table>
### Results of Impact Analysis

The increase in population associated with implementation of the RCP will require new and expanded fire protection facilities and additional fire protection staff. This represents a significant impact. General population growth within San Diego County would require the expansion of fire protection services, but implementation of the RCP further increases the need for new or expanded services.

**Comparison to No Project/Existing Plans**

Development in accordance with the existing land use plans would increase population in the San Diego area and would require additional police and fire protection staff, as well as the construction of additional fire protection facilities. Implementation of the RCP further increases the future population in the region and requires additional public safety service providers above and beyond those that would be required for future population growth under the approved land use plans.

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<table>
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<tr>
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<tbody>
<tr>
<td>The increase in population associated with implementation of the RCP results in the need for additional park and recreation services. This represents a significant impact. General population growth within San Diego County would require the expansion of park and recreation facilities and services, but implementation of the RCP further increases the need for these new services.</td>
<td>ServSys-6</td>
<td>Mitigated to Below a Level of Significance</td>
</tr>
<tr>
<td><strong>Comparison to No Project/Existing Plans</strong></td>
<td><strong>Development in accordance with the existing land use plans would increase population in the San Diego area and would require the construction of additional park and recreation facilities. Implementation of the RCP further increases the future population in the region and requires additional park and recreation facilities above and beyond those that would be required for future population growth under the approved land use plans.</strong></td>
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</tr>
</tbody>
</table>
2.0 INTRODUCTION AND STUDY APPROACH

2.1 Purpose of the PEIR

This Program Environmental Impact Report (PEIR) has been prepared pursuant to the California Environmental Quality Act (CEQA) for the Regional Comprehensive Plan (RCP) for the San Diego region by the San Diego Association of Governments (SANDAG). The Draft RCP was initially released for public review by SANDAG in December 2003. This PEIR analyzes the potential significant impacts of the adoption and implementation of the RCP by SANDAG. The RCP is the long-range planning document that addresses the region's housing, economic, transportation, environmental and overall quality-of-life needs and goals. The RCP establishes a planning framework and implementation actions that aim to increase the region's sustainability and encourage "smart growth." Sustainability means planning development that meets economic, environmental, and community needs, without jeopardizing the ability of future generations to meet these needs. Smart growth is a compact, efficient and environmentally-sensitive pattern of development that provides people with additional travel, housing and employment choices by focusing future growth away from rural areas and closer to existing and planned job centers and public facilities. Smart growth both complements and encourages sustainability.

This environmental analysis of the RCP fulfills the requirements of CEQA and has been prepared to inform decision-makers, responsible and trustee agencies, and the general public of the Proposed Project, in this case, the RCP. The PEIR recommends a set of measures to mitigate any significant adverse regional impacts identified in the analysis of the RCP. The Final PEIR will include a Mitigation, Monitoring and Reporting Program (MMRP) that identifies who will be responsible for implementing these measures. This PEIR also analyzes three alternatives to the Proposed Project.

This PEIR represents the best effort to evaluate the RCP given its long-term planning horizon. It can be anticipated that conditions will change; however, the assumptions used are the best available at the time of preparation of this document.

2.2 Scope of the PEIR

The RCP EIR is a program EIR, as defined in the CEQA Guidelines. Section 15168 of the CEQA Guidelines defines a program EIR as “an EIR which may be prepared on a
series of actions that can be characterized as one large project and are related either: (1) geographically; (2) a[s] logical parts in the chain of contemplated actions; (3) in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts which can be mitigated in similar ways.”

This PEIR is used as a basic, general environmental assessment for an overall program of projects. A PEIR has several advantages. First, it provides a basic reference document to avoid unnecessary repetition of facts or analysis. Second, it allows the lead agency to look at the broad, regional impacts of a program of actions before its adoption and eliminates redundant or contradictory approaches to the consideration of regional and cumulative impacts.

As a programmatic document, this PEIR presents a region-wide assessment of the potential impacts of the RCP. Because the RCP is a planning document intended to guide actions through the year 2030, only program-level and qualitative evaluations are provided in the PEIR. There is not enough project-specific information available to provide detailed, quantitative analysis.

The analysis in the PEIR includes both plan-to-ground and plan-to-plan analysis as dictated by the significance criteria. The plan-to-ground analysis considers the impacts of the RCP to the current environmental conditions that exist “on the ground” as of the Notice of Preparation (NOP) date for this project. The plan-to-plan analysis compares the RCP with the various adopted land use plans for the San Diego region.

The PEIR is organized into ten chapters, of which eight key chapters are described below. The remaining two chapters (9.0 and 10.0) include the list of preparers, references, and persons contacted during preparation of the PEIR.

**Chapter 1.0: Executive Summary.** This section summarizes the purpose and need for the proposed RCP and provides a review of the potentially significant adverse regional environmental impacts of the RCP as well as the measures recommended to mitigate those impacts. The summary also notes whether those measures mitigate the impacts to below a level of significance. The summary includes a discussion of areas of controversy, as well as issues to be resolved. Finally, the executive summary describes the alternatives considered in the PEIR.
**Chapter 2.0: Introduction and Study Approach.** This chapter describes the relationship between the proposed RCP and the PEIR and describes the basic legal requirements of a program-level EIR. It describes the scoping process and includes a summary of comments received during the Notice of Preparation (NOP) period and public scoping meetings.

**Chapter 3.0: Project Description.** This chapter introduces the purpose and objectives of the RCP, defines the context for the RCP and provides specific information about the RCP planning document.

**Chapter 4.0: Environmental Setting.** This section includes a brief overview of the physical characteristics of the San Diego region and identifies rare or unique resources and other CEQA-required disclosures. This section also details current and future land use, population and housing characteristics in the region.

**Chapter 5.0: Environmental Analyses.** Chapter 5.0 describes the existing environmental setting for each of the issue areas analyzed in the PEIR, the potential impacts that the proposed RCP would have on these areas, and the measures to mitigate the potential impacts. These environmental issues include:

- Land Use
- Population/Housing/Employment
- Visual Resources
- Transportation/Circulation
- Air Quality
- Noise
- Energy
- Geology/Paleontology
- Hydrology/Water Resources
- Biological Resources
- Cultural Resources
- Public Services/Utility Systems

For each of the environmental issue areas, the analysis includes the following: (1) Existing Conditions; (2) Methods of Analysis; (3) Significance Threshold; (4) Impact Analysis; (5) Mitigation Measures; and (6) Summary of Impacts with Significance Conclusions.

**Chapter 6.0: Alternatives.** This chapter evaluates and compares four alternatives to the Proposed Project. As required by CEQA, one alternative is the No Project Alternative. Two of the alternatives are based upon a reduced or increased level of intensity in the identified Smart Growth Opportunity Areas (SGOA). The fourth is an urban growth
boundary alternative. These alternatives were identified based upon the need to avoid/minimize environmental impacts, while still recognizing the project objectives.

**Chapter 7.0: Cumulative Impacts.** As required by CEQA, a cumulative impact analysis is provided to evaluate the potential impacts resulting from the incremental impact of the proposed RCP when added to other past, present, and reasonably foreseeable projects. The cumulative analysis considers the greater Southern California/Northern Baja area as the cumulative analysis study area.

**Chapter 8.0: Other Required Sections.** This chapter identifies the significant unavoidable environmental changes, significant irreversible impacts, growth-inducing impacts, effects not found to be significant, and mandatory findings of significance as warranted by the environmental analysis.

### 2.3 Notice of Preparation

CEQA regulations require an early and open process for determining the scope of the issues to be addressed prior to implementation of a proposed action. A Notice of Preparation (NOP) for the Proposed Project, dated January 27, 2004, was prepared and distributed to all Responsible and Trustee Agencies, as well as other agencies and members of the public who may have an interest in the project. The NOP, and comments received on the NOP, are included in Appendix A.

Issues raised during the public comment period relating to CEQA issues, and the scope of the PEIR are summarized in Table 2.3-1. The section of this PEIR where comments are addressed is also noted in this table. The issues are derived from written comments received during the NOP period, as well as comments received from the two PEIR scoping meetings, which are further discussed in Section 2.4. It should be noted that some of the comments received during the NOP period, were, in fact, comments on the RCP document, the RCP planning process, and other topics typically out of the purview of CEQA analysis. These types of comments are not included in Table 2.3-1.
### Table 2.3-1
Summary of NOP Comments

<table>
<thead>
<tr>
<th>Issues Area</th>
<th>Section Where Addressed in PEIR</th>
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</thead>
<tbody>
<tr>
<td><strong>Visual Resources</strong></td>
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<tr>
<td>Lighting and Glare</td>
<td>Section 5.2.4</td>
</tr>
<tr>
<td>Scenic Highways</td>
<td>Section 5.2.4</td>
</tr>
<tr>
<td><strong>Transportation/Circulation</strong></td>
<td></td>
</tr>
<tr>
<td>Linkage between the RCP and the 2030 Regional Transportation Plan</td>
<td>Section 5.4.1</td>
</tr>
<tr>
<td>Consistency with Congestion Management Plan and Regional Transportation Plan</td>
<td>See Notes 1 and 2</td>
</tr>
<tr>
<td>Identify LOS and road capacity in unincorporated areas.</td>
<td>See Notes 1 and 2</td>
</tr>
<tr>
<td>Safety and operational needs in unincorporated areas.</td>
<td>See Notes 1 and 2</td>
</tr>
<tr>
<td>Identify emergency access needs in unincorporated areas.</td>
<td>See Notes 1 and 2</td>
</tr>
<tr>
<td>Identify alternative transportation needs in unincorporated areas.</td>
<td>See Notes 1 and 2</td>
</tr>
<tr>
<td>Roadway impacts from Tribal projects on roads and highways.</td>
<td>See Notes 1 and 2</td>
</tr>
<tr>
<td>Infrastructure needs on Tribal lands.</td>
<td>See Notes 1 and 2</td>
</tr>
<tr>
<td>Infrastructure needs in the San Diego/Mexico border region.</td>
<td>See Notes 1 and 2</td>
</tr>
<tr>
<td>Detailed list of projects and programs that would be implemented under the RCP.</td>
<td>See Note 3</td>
</tr>
<tr>
<td>Identify any inconsistencies between RCP policies and the San Diego County General Plan and/or current County policies.</td>
<td>Section 5.1.4 and see Note 2</td>
</tr>
<tr>
<td>Residential and employment intensities and the impact on peak hour traffic patterns.</td>
<td>Section 5.5.4 and see Note 2</td>
</tr>
<tr>
<td>Identify growth that is forecasted into areas that are not identified as Smart Growth Opportunity Areas.</td>
<td>Section 5.5.4 and see Note 4</td>
</tr>
<tr>
<td>Identify impacts to Indian Reservations.</td>
<td>Section 5.5.4 and see Note 2</td>
</tr>
<tr>
<td>Address traffic impacts from regional commuters.</td>
<td>Section 5.5.4 and see Note 2</td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td></td>
</tr>
<tr>
<td>Mobile and stationary source emissions</td>
<td>Section 5.5.4</td>
</tr>
<tr>
<td><strong>Noise</strong></td>
<td></td>
</tr>
<tr>
<td>Change in noise contours for County airports, transportation corridors, and major regional roadways.</td>
<td>Section 5.6.4 and see Note 2</td>
</tr>
<tr>
<td><strong>Hydrology/Water Resources</strong></td>
<td></td>
</tr>
<tr>
<td>Impacts to watersheds from increased impervious surfaces.</td>
<td>Section 5.9.4</td>
</tr>
<tr>
<td><strong>Biological Resources</strong></td>
<td></td>
</tr>
<tr>
<td>Consistency with regional conservation programs, including NCCP and MSCP.</td>
<td>Section 5.10.4</td>
</tr>
<tr>
<td>Potential impacts to wildlife movement corridors from transportation improvements.</td>
<td>Section 5.10.4</td>
</tr>
<tr>
<td>Relationship of RCP with existing habitat conservation plans, natural community conservation plans, and designed critical habitat.</td>
<td>Section 5.10.1</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Issues Area</th>
<th>Section Where Addressed in PEIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect and cumulative effects to biological resources.</td>
<td>Indirect impacts: Section 5.10.4</td>
</tr>
<tr>
<td></td>
<td>Cumulative impacts: Section 7.1</td>
</tr>
<tr>
<td>Project description, including a discussion of the need and purpose.</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>Description of alternatives.</td>
<td>Sections 6.2.1 through 6.2.3</td>
</tr>
<tr>
<td>Specific acreages and descriptions of sensitive habitats that may be</td>
<td>Sections 6.2.1 and see Note 2</td>
</tr>
<tr>
<td>impacted by implementation of the RCP.</td>
<td></td>
</tr>
<tr>
<td>Discussion of biological mitigation measures.</td>
<td>Section 5.10.6</td>
</tr>
<tr>
<td>Indirect noise and lighting impacts on wildlife.</td>
<td>Section 5.10.4</td>
</tr>
<tr>
<td>Hydrology analysis in terms of impacts to riparian and wetland habitats.</td>
<td>Section 5.9.4 and 5.10.4</td>
</tr>
</tbody>
</table>

Public Services/Utility Systems

Relationship of SANDAG’s growth projections to the San Diego County Water Authority’s regional water planning efforts. | Section 5.12.1 |
Evaluate impacts on city water and sewer systems. | Section 5.12.4 |
Evaluate RCP impacts on parkland, and discuss deficiencies. | Section 5.12.4 |
Address conflicts with County Trail Master Plan. | See Note 2 |

Alternatives

PEIR should include a range of alternatives.
- Relocate Growth within the region.
- Job/Housing Balance Alternative.
- No Project/Existing Plans.

Notes:
1. The Regional Transportation Plan (RTP) provides the transportation guidance for the RCP. This plan was subject to a previous EIR prior to its adoption.
2. The RCP EIR is a program level EIR, with analysis based upon the level of specificity available at this time. Future development projects associated with the RCP will be required to undergo CEQA review, which will identify site-specific impacts from project implementation.
3. Aside from future transportation improvements as part of the RTP, future projects associated with implementation of the RCP have not been identified. Environmental impacts associated with implementation of the RTP were discussed in the RTP FEIR (SANDAG 2003b).
4. Growth in the areas outside the SGOA will develop consistent with the adopted land use plans for the respective jurisdiction.

2.4 Public Outreach

To gain involvement from San Diego area residents in the RCP process, nearly 40 workshops and forums were held throughout the region. Initial efforts enlisted participation from residents and stakeholders to develop vision and core values. As part of the public involvement effort, a number of community-based organizations, representing a diverse range of ethnicities, income levels and ages throughout the region, received grants from SANDAG to perform outreach in their communities on RCP issues. These community-based organizations helped identify issues of importance in their communities.
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communities on RCP issues. Feedback and comments from workshops, presentations and public meetings were used to develop the policy objectives and actions that make up the RCP.

Scoping for the RCP PEIR included distribution of the NOP, as well as two public scoping meetings held at regional libraries. The first meeting was held on February 5, 2004 at the Cardiff-by-the-Sea County branch library in Encinitas, and the second meeting on February 9, 2004 in the City of San Diego at the Mission Valley branch public library.

2.5 Areas of Known Controversy

Information from the nearly 40 community workshops was compiled into a series of workshop summaries and evaluations prepared by SANDAG. The complete summaries are available in the RCP subsection of the SANDAG website at www.sandag.org. Table 2.5-1 provides a brief summary of controversial views on the RCP from the community workshops.

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Point of Controversy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regional Coordination</strong></td>
<td>• Difficultly in changing local land use plans.</td>
</tr>
<tr>
<td></td>
<td>• Difficult to balance local control with regional needs.</td>
</tr>
<tr>
<td></td>
<td>• Feasibility of collaborating with Mexico on planning and environmental issues.</td>
</tr>
<tr>
<td><strong>Planning</strong></td>
<td>• Focus should be on controlling growth.</td>
</tr>
<tr>
<td></td>
<td>• Stabilize population growth by reducing new development.</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td>• Focus should be on quick transportation alternatives.</td>
</tr>
<tr>
<td></td>
<td>• Public transit is ineffective and time consuming.</td>
</tr>
<tr>
<td></td>
<td>• Difficult to change personal transportation habits (e.g. get people out of their cars and on to public transit).</td>
</tr>
<tr>
<td></td>
<td>• Inland (I-15 corridor) commuter line is needed; do not focus solely on the coastal route.</td>
</tr>
<tr>
<td><strong>Urban Form</strong></td>
<td>• Infrastructure needs to be provided in advance of density.</td>
</tr>
<tr>
<td></td>
<td>• Second dwelling units are undesirable; they change the character of single-family neighborhoods.</td>
</tr>
<tr>
<td></td>
<td>• Redevelopment/gentrification often displaces lower-income residents.</td>
</tr>
<tr>
<td><strong>Biological Resources</strong></td>
<td>• Preservation of habitat vs. public access to the habitat (provision of trails in open space areas).</td>
</tr>
</tbody>
</table>
2.6 Issues to be Resolved

The following issues remain to be resolved by the decision-making body:

- Determine if the Proposed Project or any of the project alternatives should be adopted. The RCP would implement smart growth strategies that may not be acceptable in some communities.

- Determine if mitigation measures adequately address land use, population/housing/employment, visual resources, transportation, air quality, noise, geology/paleontology, hydrology/water resources, biological resources, cultural resources, and public services/utility systems impacts.

- Determine if the positive benefits of the RCP outweighs the unavoidable significant impacts.

2.7 Consultation and Coordination

The lead agency for this proposed action is SANDAG. Listed below are local jurisdictions/special districts which would be identified as responsible agencies if they tier future environmental review from the RCP PEIR.

- County of San Diego
- City of Carlsbad
- City of Chula Vista
- City of Coronado
- City of Del Mar
- City of El Cajon
- City of Encinitas
- City of Escondido
- City of Imperial Beach
- City of La Mesa
- City of Lemon Grove
- City of National City
- City of Oceanside
- City of Poway
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- City of San Diego
- City of San Marcos
- City of Santee
- City of Solana Beach
- City of Vista
- Centre City Development Corporation
- Metropolitan Transit System
- North San Diego County Transit Development Board
- San Diego Unified Port District
- San Diego County Water Authority

Deleted:
- U.S. Fish and Wildlife Service
- United States Army Corps of Engineers
- California Department of Fish and Game
- California Department of Conservation
- California Department of Transportation (Caltrans)

Inserted:
- Metropolitan Transit Development Board

Deleted:
- Imperial County
- Department of Defense

Deleted:
- State Lands Commission
- California Water Resources Control Board
- California Coastal Commission

Inserted:
- California Coastal Commission
3.0 PROJECT DESCRIPTION

This section describes the proposed project evaluated throughout this Program Environmental Impact Report (PEIR), including the project's background, purpose, primary objectives, and main characteristics.

3.1 Project Background

In recent decades, demand for housing has far outpaced housing supply in the San Diego region, which has led to higher home prices, low rental vacancy rates, and more crowded homes. Much of the new housing that has been developed in the region has occurred on the outskirts of San Diego's urbanized communities, while new housing development has grown tremendously in communities located just outside the region, like the City of Temecula in Riverside County. Recent surveys have shown that 29,000 western Riverside County residents commute into San Diego County for work, and 40,000 workers, many of them U.S. citizens, cross the border from Mexico each day for San Diego region jobs (SANDAG 2004). With new "bedroom communities" being developed far from the major employment centers of the San Diego region, traffic congestion and commute times are increasing significantly, while important open space is being lost to development.

Over the next 30 years it is estimated that more than one million people will be added to the region as a result of natural growth (births) and immigration. If the region continues to build homes at a slower pace than housing demand, interregional commuting will increase. Specifically, under current land use plans, it is estimated that approximately 93,000 households would be "exported" to Baja California, Riverside, Orange, and Imperial counties. The resulting sprawled housing growth and long-distance commuting pattern will put a strain on the region's transportation and infrastructure systems, intensify the region's housing problems, impede economic growth, and degrade the environment and overall quality of life.

Fiscal and political realities provide impediments to the production of new homes, but geography is also a major factor. Little undeveloped land that is suitable for large-scale residential development remains in the region. Topography, water supply, public ownership, and endangered plants and animals constrain most new development to the western third of the region. The mountains and deserts to the east are too far from jobs,
schools and services, and in many instances have environmental or engineering constraints that impede development.

Some of the major challenges facing the region are how to: (1) intelligently plan the small amount of remaining undeveloped land designated for residential development; (2) protect the region's natural environment; (3) maximize urban redevelopment and infill opportunities; and (4) coordinate these revitalization efforts with our current and future transportation networks, maximizing mobility within the San Diego region. One obstacle to crafting effective solutions to these challenges lies in the existing structure of the region's governments; most land use plans for future development patterns are developed by local governments, while most transportation planning is done regionally by SANDAG.

After more than two years of planning, SANDAG approved the updated 2030 Regional Transportation Plan (RTP) in March 2003. The RTP represents SANDAG's transportation policy and action statement to: (1) address the region's long-term mobility needs, (2) better connect transportation and land use policy decisions, and (3) create a transportation network that will serve the region through the year 2030. In concert with this RTP planning effort, in early 2002, the SANDAG Board of Directors called for the preparation of a Regional Comprehensive Plan (RCP) to address the region's housing, economic, transportation, environmental and overall quality of life needs. The RCP complements the previously approved RTP by identifying a preferred approach for regional growth that takes into consideration the future transportation system planned in the RTP.

The RCP effort was headed by SANDAG's Regional Planning Committee, which consists of local elected officials representing the San Diego region. The committee also includes a number of advisory members, including California Department of Transportation (Caltrans), the San Diego Unified Port District, the Department of Defense, local transit agencies, the San Diego County Water Authority, and representatives from two SANDAG working groups: the Regional Planning Technical Working Group (TWG), made up of the region's planning and community development directors, and the Regional Planning Stakeholders Working Group (SWG), composed of community stakeholders from throughout the region. SANDAG's Borders Committee and Transportation Committee also provided input on key parts of the RCP.
**Enabling Legislation**

In September 2003, the Governor of the State of California signed AB 361 (Kehoe) into law, declaring, among other things, that if SANDAG chooses to prepare a regional comprehensive plan, it must complete a public process of preparing and adopting the plan by June 30, 2004. The law specifies that in allocating transportation resources, SANDAG must consider the extent to which each jurisdiction's general plan implements land use policies recommended in the RCP. The law also specifies that the public must be provided with opportunities to participate in decisions affecting the region's future quality of life.

**Broad Public Involvement**

To gain involvement of the residents from throughout the region on the vision, core values, goals, policy objectives, and actions, nearly 40 workshops and forums were held in cities all over the region. Initial efforts enlisted participation from residents and stakeholders to help craft the vision and core values. Thousands of people participated at these local public workshops, including business leaders, environmentalists, housing advocates, educational leaders, civic organizations, farming interests, design professionals, health advocates, planning directors, public works directors, city managers, community based organizations, local and state-elected officials, and representatives from state agencies, federal agencies, neighboring counties, and the Republic of Mexico. Feedback and comments from these workshops, presentations, and public meetings was used to develop the policy objectives and actions outlined in the RCP.

As part of this public involvement effort, a number of community-based organizations received grants from SANDAG to perform outreach in their communities on RCP issues. These community-based organizations helped identify issues of importance in their communities that have been incorporated throughout the RCP.

**3.2 Regional Planning Area**

The RCP addresses growth and development in the incorporated and unincorporated portions of the San Diego region as illustrated on Figure 3.2-1. This region was chosen because it reflects the area that is most likely to be affected by land use and transportation policy decisions that will result from implementation of the RCP.
3.3 Purposes and Objectives of the Plan

Together with the previously adopted 2030 RTP, the primary purpose of the RCP is to provide a comprehensive framework for greater coordination of regional transportation and land use planning so that local jurisdictions and infrastructure providers can update their plans in a manner that achieves the following objectives:

- **Encourage sustainable development by making land use decisions and infrastructure investments that are good for the environment.** Sustainability means planning and development that meets economic, environmental, and community needs, without jeopardizing the ability of future generations to meet these needs;

- **Support "smart growth" through the prioritization of regional transportation funds.** Smart growth is a compact, efficient and environmentally-sensitive pattern of development that provides people with additional travel, housing and employment choices by focusing future growth away from rural areas and closer to existing and planned job centers and public facilities while preserving open space and making more efficient use of existing urban infrastructure. Smart growth both complements and encourages sustainability; and

- **Address the region’s housing needs, recognizing that the rate of population increase is exceeding the rate of housing unit increase.**

- **Achieve fairness and equity in regional planning and development processes.**

3.4 Plan Concept

The RCP is the long-range planning document that addresses the region's housing, economic, transportation, environmental and overall quality-of-life needs. The RCP establishes a planning framework and implementation actions that aim to increase the region's sustainability and encourage "smart growth." These two interrelated approaches, sustainability and smart growth, form the basis of the RCP.

To encourage regional sustainability and smart growth, the RCP aims to reduce the number of housing units and residents that are expected to be "exported" from the region by 2030 according to currently adopted land use plans as well other political and physical
Figure 3.2-1
REGIONAL SETTING
March 2003

MILES
0 3 6 9
KILOMETERS
0 4.8 9.6 14.4

SANDAG

U.S.A.
MEXICO
factors. To achieve this, the Plan identifies certain areas in the region as Smart Growth Opportunity Areas (SGOA). Designation of these opportunity areas is intended to provide guidance to local governments, property owners, and service providers as to where smart growth development should occur from a regional perspective, and focuses attention on these areas as local jurisdictions update their general plans and redevelopment plans. Once these areas are designated by local jurisdictions for development types, densities, and intensities consistent with the goals of this Plan, transportation facility improvements and other infrastructure will be targeted to these areas.

The intended effect of this is to capture housing units that are anticipated to be exported from the San Diego region to Baja California, Riverside County, Orange County, and Imperial County by 2030 and redirect those housing units to areas within the region that are located near transit stations along the existing and proposed regional transportation corridors identified in Figure 3.4-1 as well as other locations where compact development is appropriate from a regional transportation/land use perspective. These other locations may include, but are not limited to, unincorporated communities, such as Valley Center, Fallbrook, Ramona, Alpine, and Lakeside. A portion of this redirected development will occur in areas of vacant land and a portion will occur as redevelopment and infill development in urbanized communities. Based upon regional projections, approximately 93,000 housing units will be exported from the region by 2030 based on existing land use plans.

Although when the planning process for the RCP was initiated, one of the scenarios envisioned was to balance population growth with housing needs, this PEIR assumes that because of the complexities of regional planning, coordination between local and regional agencies, and other political and fiscal realities, about 40 to 60 percent (37,000 to 55,000) of the 93,000 units could be recaptured as a result of implementing the RCP. This number is provided in the EIR for analysis purposes and is only intended to demonstrate the potential impacts of implementing all of the interrelated quality-of-life goals, policy objectives, and actions contained in the RCP in a manner that assumes related infrastructure investments in conjunction with the provision of additional housing units. Where a specific population number is necessary for analysis in this PEIR, the midpoint of this range will be used (46,000 units). Tables 3.4-1 and 3.4-2 summarize the estimated level of residential and non-residential development, employment and population for the region in 2004 and 2030 both without the RCP and with the RCP. As shown in Table 3.4-1 and 3.4-2, an increase in 46,000 housing units and 130,640 persons is projected in the region in 2030 as a result of the RCP. The percentage change in housing and
population between 2004 and 2030 is expected to be 4 percent higher with implementation of the RCP. As shown in Tables 3.4-1 and 3.4-2, implementation of the RCP is expected to have a negligible effect on the region's employment growth.

The effects of the new urban growth pattern that may result from the RCP as well as implementation of the other components of the RCP are addressed in this PEIR. It should be noted that direct “on the ground” change from the RCP will not occur immediately. Subsequent approvals from local jurisdictions will be required.

<table>
<thead>
<tr>
<th>Growth Factor</th>
<th>Year 2004</th>
<th>Year 2030</th>
<th>2004 – 2030 Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2030 w/o RCP</td>
<td>2030 w/ RCP</td>
<td>Percentage</td>
</tr>
<tr>
<td>Population</td>
<td>2,972,988</td>
<td>3,985,725</td>
<td>1,012,737</td>
</tr>
<tr>
<td>Housing Units</td>
<td>1,099,071</td>
<td>1,400,136</td>
<td>301,065</td>
</tr>
<tr>
<td>Employment</td>
<td>1,442,214</td>
<td>1,836,174</td>
<td>393,960</td>
</tr>
</tbody>
</table>

Notes:
Midpoint housing units growth of 46,000 assumed.
2.84 persons per housing unit assumed for 2030.
Each new housing unit was assumed to generate 0.264 service sector jobs. (Matthew Eary, SANDAG Economist, February 2004).
Population and housing forecasts based on adopted general plans for the 18 cities and the County of San Diego.

3.5 RCP Contents and Organization
The RCP consists of nine chapters and an executive summary that provide the long-term planning framework for the San Diego region. A general description of each chapter is provided below. The goals, policy objectives, and actions associated with the RCP are summarized in Table 3.5-1, located at the end of this chapter.
Figure 3.4-1
SMART GROWTH OPPORTUNITY AREAS*
March 2004

1/4 mile buffer on Regional Transit Service Corridors Capacity Data Area
Potential Capacity

*Additional smart growth opportunity areas that meet smart growth principles could also be included (See Chapter 4a of the RCP).
Executive Summary

The Executive Summary introduces the RCP, including the vision, goals and objectives of the planning document, and describes the RCP planning framework and overall approach.

1 - Introduction

The Introduction to the RCP provides a general description of the plan, its major purposes, and how the plan addresses the unique challenges facing the region. A brief description of who prepared the RCP and how it was funded is also provided.

2 - Regional Vision and Core Values

This chapter of the RCP defines the vision for the region in 2030. The core supporting values used to build that vision are also identified. The plan concepts of sustainability and smart growth are also introduced in this chapter.

3 - Overview of the San Diego Region

Chapter 3 provides an overview of current conditions and future demographic, housing, and population trends in the region, and addresses how the RCP works in this framework.

4 - Regional Planning and Policy Framework

Chapter 4 describes the policy framework for planning the region's growth and how that framework parallels frameworks used by local jurisdictions throughout the region. In addition to describing the existing setting and key issues, this chapter of the Plan identifies goals, policy objectives and actions for the following issue areas, each of which are subchapters to Chapter 4:

- Urban Form
- Transportation
- Housing
- Healthy Environment – Natural Habitats, Air, Water, and Shoreline Preservation
- Economic Prosperity

5 - Borders

This chapter of the RCP describes existing conditions in the border region and establishes goals, policy objectives, and actions related to the following border issues: jobs/housing, transportation, energy and water supply, environment, economic development, and homeland security.

6 - Social Equity and Environmental Justice Assessment

Chapter 6 describes the federal and state legal background regarding social justice, equity, and environmental justice, and describes the current equity and diversity conditions in the region. This chapter also identifies goals, policy objectives, and actions related to each of the specific issue areas (subchapters) in Chapter 4.

7 - Integrated Regional Infrastructure Strategy (IRIS)

This chapter describes the proposed strategy for achieving the vision established in the RCP and how the IRIS will align the RCP goals and objectives with proposed infrastructure improvements. Detailed information regarding funding sources and the approach to achieving smart growth development by linking infrastructure investments to local and regional transportation and land use plans, including a description of the Smart Growth Pilot Program, is provided in this chapter. This chapter identifies goals, policy objectives, and actions related to the region’s infrastructure and services.

8 – Performance Monitoring

The Performance Monitoring chapter includes performance indicators to monitor the plan’s effectiveness. Overall, the indicators are intended to answer the questions: "Is the RCP being implemented?" and "Is RCP implementation having a positive effect on the region?" Indicators for each topic area of the RCP are included.
9 – Implementation

This chapter outlines how the RCP will be implemented. The implementation strategy is based on two fundamental themes: collaboration and incentives. The chapter describes specific collaborative efforts, including guidelines for strengthening the relationship between local and regional plans and efforts to enhance subregional planning, and discusses incentive programs. Additionally, the chapter culminates in a list of "Strategic Initiatives" – a tangible work program for the RCP that organizes the actions recommended in each chapter into related sets of work programs that focus on those most in need of priority attention.

The Implementation chapter emphasizes that the RCP was not designed as a regulatory plan, but rather as a guidance plan. SANDAG does not have authority over local land use decisions and is not a regulatory agency. As such, the preferred implementation strategy for the RCP is a collaborative planning approach that builds up from the local level into a regional framework to establish stronger connections between transportation and land use, connect local and regional plans, and foster cooperative approaches to implementing the actions identified in the plan.

This collaborative planning approach is also an "iterative" process. The chapter points out that updates to local and general plans will feed into the regional growth forecast, the Regional Comprehensive Plan, and the Regional Transportation Plan, which, in turn, will affect the other plans as they are updated.

The theme of collaboration extends to four key areas: strengthening the connection between local and regional plans; subregional planning programs; private sector participation; and compacts (or agreements) among the participants in the plan's implementation.

The theme of incentives recognizes that financial incentives serve as a critical implementation tool in fostering smart growth. This section describes the principles to be used in developing smart growth incentive programs in the region, and outlines the three-pronged implementation approach related to incentives:

1. Developing a Smart Growth Area Concept Map;
2. Developing the Smart Growth Incentive Program called for in MOBILITY 2030; and

This chapter also describes other key components of RCP implementation, including activities related to public participation, social equity and environmental justice, intergovernmental review, performance monitoring baseline report and targets, and analytical tools.

The heart of the Implementation chapter is a set of "Strategic Initiatives," or sets of priority actions to be undertaken by various groups to implement the key concepts contained in the plan. The list of Strategic Initiatives includes (1) the responsible lead agency charged with implementing the initiative, (2) supporting agencies that can assist with implementation, and (3) start date and duration times by fiscal year.

Finally, the chapter concludes by identifying next steps and topics for consideration in future updates to the RCP.

3.6 Intended Uses of the PEIR

This PEIR provides the necessary environmental review and impact mitigation for adoption and implementation of the RCP. SANDAG and other applicable local and regional agencies and districts will review subsequent implementation projects for consistency with the PEIR and prepare appropriate environmental documentation pursuant to California Environmental Quality Act (CEQA) provisions for PEIRs and subsequent projects. Subsequent projects that may use this PEIR include, but are not limited to, the following implementation activities:

- General Plan amendments;
- Rezonings of properties;
- Zoning Ordinance amendments;
- Specific Plans and Specific Plan amendments;
- Facility and service master plans and financing plans;
- Public improvements projects;
- Resource management plans; and
- Permits and other approvals necessary for implementation of the RCP.

The lead agency for this proposed action is SANDAG. Listed below are local jurisdictions/special districts which would be identified as responsible agencies if they...
Future environmental review from the RCP PEIR. Responsible agencies involved in the RCP process include local jurisdictions. A list of these agencies is provided below:

- County of San Diego
- City of Carlsbad
- City of Chula Vista
- City of Coronado
- City of Del Mar
- City of El Cajon
- City of Encinitas
- City of Escondido
- City of Imperial Beach
- City of La Mesa
- City of Lemon Grove
- City of National City
- City of Oceanside
- City of Poway
- City of San Diego
- City of San Marcos
- City of Santee
- City of Solana Beach
- City of Vista
- Centre City Development Corporation
- Metropolitan Transit System
- North San Diego County Transit Development Board
- San Diego Unified Port District
- San Diego County Water Authority

Delete: The following lead, responsible, and trustee agencies may use this PEIR in the adoption of the RCP and approval of subsequent implementation activities. These agencies may include, but are not limited to, the following:

- U.S. Fish and Wildlife Service
- United States Army Corps of Engineers
- California Department of Fish and Game
- California Department of Conservation
- California Department of Transportation (Caltrans)
- North County Transit Development Board
- Imperial County
- Department of Defense
- San Diego Unified Port District
- State Lands Commission
- California Water Resources Control Board
- California Coastal Commission

Insert: California Coastal Commission
### Project Description

**Table 3.5-1**  
RCP Goals, Policy Objectives, Actions, and Implementing Parties

<table>
<thead>
<tr>
<th>Urban Form</th>
<th>Goal</th>
<th>Policy Objectives</th>
<th>Recommended Actions</th>
<th>Program and Project Development and Implementation Actions</th>
</tr>
</thead>
</table>
| Urban Form | 1.   | Focus future population and job growth away from rural areas and closer to existing and planned job centers and public facilities to preserve open space and to make more efficient use of existing urban infrastructure. | 1. Preserve the positive aspects and unique sense of place of existing communities, while allowing flexibility for change. 1, 2, 3, 4  
2. Protect agricultural areas, natural systems, high-value habitat areas (as reflected in adopted habitat plans), and other open-space areas that define the character of our communities. 5  
3. Place high priority on public facility investments that support compact, mixed-use, accessible, walkable neighborhoods that are conveniently located to transit. 3, 4  
4. Improve existing public facilities in smart growth areas to mitigate the impact of higher intensities of use. 3, 4, 5  
5. Facilitate redevelopment and infill development. 2, 3, 4  
6. Protect public health and safety by avoiding and/or mitigating incompatible land uses. 2, 3 | 1. In conjunction with the smart growth area classification matrix, identify locations where smart growth development should occur and designate them on a Smart Growth Area Concept Map. 1, 2, 3  
2. Develop a process to plan, promote, and monitor a better mix of jobs and housing at the subregional level. 2, 3  
3. Implement development projects and plans that: 3, 4, 5  
   - Provide a more diverse mix of housing types, jobs, services, and recreational land uses with good access for pedestrians and people with disabilities. 2, 3, 4  
   - Preserve our natural resources. 2, 3  
   - Avoid and mitigate incompatible land uses, for example, by establishing buffers or transition zones between housing and industrial uses or major transportation corridors that could pose health risks. 2, 3  
4. Examine and, if appropriate, amend existing guidelines regarding traffic impacts and parking standards to reflect the potential reduction in trip generation rates from smart growth development, redevelopment, and transportation demand management programs. 1, 2, 3  
5. Facilitate redevelopment and infill development. 2, 3, 4  
6. Protect public health and safety by avoiding and/or mitigating incompatible land uses. 2, 3 | 1. Develop an urban design best practices manual as a tool for local agencies, which addresses walkability, compatibility with public transportation, crime prevention, universal design, and accessibility as well as other urban design issues. 1, 2, 3, 4, 5  
2. Institute an education and outreach program to help local agencies develop community consensus on urban design that supports smart growth. 2, 3, 4, 5 |
| Transportation | 1.   | Develop a flexible, sustainable, and well-integrated transportation system that focuses on moving people and goods—not just vehicles. | 1. Implement the 2030 MOBILITY Network in an efficient and cost-effective manner. 2, 3  
2. Provide a wide range of convenient, efficient, and safe travel choices. 1, 2  
3. Reduce traffic congestion on freeways and arterials. 2, 3  
4. Develop a network of fast, convenient, high-quality transit services that are competitive with the cost and time to drive alone during peak periods. 2, 3  
5. Improve service levels and the quality of transit service. 4, 5  
6. Create more walkable and bicycle-friendly communities consistent with area urban design. 1, 2, 3 | 1. Update the Regional Transportation Plan, incorporating major RCP concepts. 1, 2, 3, 4  
2. Develop a process to prepare subregional transportation studies and implementation programs focused on subregional areas where transportation and land use issues cross jurisdictional boundaries. 1, 2, 3  
3. Identify priority corridors and phase highway, arterial, and transit improvements to meet those priorities, while synchronizing transportation improvements with local land use development. 1, 2, 3  
4. Complete necessary transportation networks (including the high-occupancy vehicle/managed lanes) with missing links, provide parallel routes where appropriate, and preserve corridors for future transportation projects. 1, 2, 3  
5. Ensure that appropriate transportation projects routinely accommodate or provide for pedestrian and bicycle access in their design. 1, 2, 3 | 1. Increase the use of Transportation Demand Management (TDM) programs that encourage alternatives to driving alone during peak periods, such as carpooling, vanpooling, telecommuting, and flexible work hours. 1, 2, 3, 4  
2. Efficiently manage the regional transportation system through programs such as ramp metering, movable barriers, interconnected traffic management systems, priority signalization, and real-time traveler information. 1, 2, 3, 4  
3. Develop and implement integrated programs for areas served by transit that facilitate and encourage transit use including car sharing, shuttle service, bike lockers, and other programs. 1, 2, 3, 4, 5  
4. Develop and implement programs such as paratransit that improve transportation options for seniors and persons with disabilities. 1, 2, 3, 4  
5. Ensure that the Short Range Transit Plan and the network and... |
### Project Description

#### Recommended Actions

<table>
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<tr>
<th>Goal</th>
<th>Policy Objectives</th>
<th>Planning, Design, and Coordination Actions</th>
<th>Program and Project Development and Implementation Actions</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>6. Enhance pedestrian and bike connections to transit stations.</td>
<td>Service priorities established through the subregional studies and implementation programs are coordinated and consistent with each other.</td>
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<td>7. Identify modal connection points and related transportation improvement requirements.</td>
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<td>8. Ensure that transit is accessible, available, and within the financial reach of as many residents as possible.</td>
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<td>9. Design new transportation projects in such a way that they do not result in disproportionate health-related and environmental impacts on any community.</td>
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<td>10. Develop a regional airport solution that meets long-term demand for passenger and freight air travel.</td>
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<td>11. Ensure good multi-modal access to the new regional airport and/or the reconfigured San Diego International Airport.</td>
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<td>12. Improve access to goods movement centers and intermodal facilities while minimizing the impacts to surrounding neighborhoods.</td>
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<td>13. Ensure that the development review process addresses the transit planning needs both within and adjacent to proposed developments.</td>
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<td></td>
<td>14. Take actions to support the California High-Speed Rail Authority in its efforts to bring high-speed interregional passenger rail service to San Diego County.</td>
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<td></td>
<td>15. Ensure that the environmental review of large development projects includes consideration of applicable policy objectives contained in the RCP, Congestion Management Program (CMP), and the RTP.</td>
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</tr>
</tbody>
</table>

#### Funding Actions:

1. Secure funding for implementation of transportation projects included in the 2030 Mobility Network and future updates.
2. Develop Transportation Project Evaluation Criteria based on the preliminary criteria themes in the RCP in order to prioritize transportation funding and transit service in areas where smart growth development has already occurred or is planned.
3. Research the use of fees, exactions, or other means to mitigate the net impact of new development or redevelopment on regional transportation facilities.
4. Pursue financing opportunities such as user fees, congestion pricing, and private investments to help pay for needed transportation improvements.

### Housing

1. Provide a variety of affordable and quality housing choices for people of all income levels and abilities throughout the region.
2. When developing both vacant land and redevelopment and infill sites, integrate housing with jobs, transit, schools, recreation, and services, creating more livable neighborhoods and diverse mixed use communities to support the RCP’s smart growth objectives.
3. Increase the effectiveness of housing element laws, creating a meaningful regional housing allocation process.
4. Provide incentives for local jurisdictions to meet service priorities established through the subregional studies and implementation programs are coordinated and consistent with each other.

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1. Develop and implement local affordable housing programs and incentives, such as land banking, inclusionary housing, density bonus, second dwelling unit, and priority permit processing programs.
2. Review governmental processes and fees, and make changes if needed, to ensure that they are not acting as unnecessary barriers to housing construction.
3. Develop and implement programs to conserve and rehabilitate our existing affordable housing stock, including rental apartments and mobile and manufactured homes.
4. Implement homeownership programs, such as cooperatives (co-ops), first time homebuyer programs, community land trusts, location efficient mortgage programs, and employer-assisted housing programs.
## Project Description

### Goal Policy Objectives

1. **Planning, Design, and Coordination Actions**

   5. Continue to participate in the State of California Department of Housing and Community Development (HCD)’s Housing Element Working Group.

2. **Program and Project Development and Implementation Actions**

   5. Develop and implement programs for new housing construction that encourage environmentally sustainable construction (green building techniques) and the application of universal design principles to promote accessibility. 2, 3

   6. Eliminate environmental and health hazards in existing housing, and in new housing as it is sited, designed, and built. 1, 2

   7. Develop strategies for providing replacement housing for lower income residents as conversion, demolition, redevelopment and/or infill development occurs. 1, 2

   8. Implement public education programs, showing positive examples of affordable and multi-family housing, and mixed use developments. 1, 2

### Funding Actions:

1. Ensure that housing affordability is included in the criteria for SANDAG’s smart growth incentive programs.

2. Pursue and ensure the lawful and efficient use of existing funds for the creation of additional affordable housing for families, seniors, persons with disabilities, the homeless and other lower income residents.

3. Develop new funding sources for the creation of additional affordable housing for families, seniors, persons with disabilities, the homeless, and lower income families, such as housing trust funds, linkage fees, and bonds.

4. Reduce the fiscal inequities associated with housing construction to provide local jurisdictions with a financial incentive to plan for and approve housing.

### Healthy Environment: Natural Habitats

1. **Preserve and maintain natural biological communities and species native to the region.** 1, 2, 3

2. **Protect agricultural lands for future crop production and for functions described in the habitat conservation plans.**

3. **Promote fire management techniques that are compatible with preservation of biological resources and reduce hazards to humans and their property.**

4. **Coordinate and cooperate throughout the region on the planning and implementation of future transportation and habitat preserve infrastructure systems.**

5. **Consider wildfires when designing future developments to increase public safety while avoiding excessive clearing, fragmentation, and degradation of natural habitats.**

6. **Coordinate efforts with the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and non-profit organizations to establish and maintain regional databases for biological monitoring.** 1, 2, 3

7. **Preserve and maintain natural areas in urban neighborhoods, such as canyons and creeks, and provide access for the enjoyment of the region’s residents.**

8. **Identify and implement programs for the use of native plants in the landscaping of public facilities; and encourage the use of native vegetation in private landscaping.** 1, 2, 3, 4

9. **Design future infrastructure projects in accordance with wildlife...**
### Regional Comprehensive Plan PEIR

#### Project Description

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Healthy Environment: Water Quality</td>
<td>1. Restore, protect, and enhance the water quality and the beneficial uses of local coastal waters, inland surface waters, ground waters, and wetlands.</td>
<td>1. Evaluate the effectiveness of Best Management Practices (BMPs) and revise policies as needed to ensure they best meet the needs of the region.</td>
<td>Funding Actions: 1. Secure regional funding to acquire high-value habitat areas from willing sellers as shown in adopted habitat plans.</td>
</tr>
<tr>
<td></td>
<td>2. Reduce or eliminate pollutants at their source before they enter our region’s water bodies.</td>
<td>2. Encourage and support land use planning at the watershed level in order to improve identified water quality issues within the watershed.</td>
<td>2. Distribute regional funding for habitat land acquisition in accordance with approved local subarea habitat conservation plans.</td>
</tr>
<tr>
<td></td>
<td>3. Protect local drinking water sources.</td>
<td>3. Integrate drinking water source protection guidelines into the development process.</td>
<td>3. Secure regional funding for ongoing land management and biological monitoring of high-value habitat areas.</td>
</tr>
</tbody>
</table>

**Funding Actions:**

1. Secure regional funding to acquire high-value habitat areas from willing sellers as shown in adopted habitat plans.
2. Distribute regional funding for habitat land acquisition in accordance with approved local subarea habitat conservation plans.
3. Secure regional funding for ongoing land management and biological monitoring of high-value habitat areas.

**Format:** Right: 0.25”

**Deleted:** Protect agricultural soils for future crop production, bringing habitats and buffers between native habitats and urban development.

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**Deleted:** In lower income and minority communities and they are not

**Deleted:** Increase their effectiveness.

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**Deleted:** Develop a framework for assessing the effectiveness of jurisdictional stormwater programs.

**Funding Actions:**

1. Secure a reliable funding source to ensure development and implementation of comprehensive regional stormwater plans and programs.
2. Secure funding to comply with state and federal mandated regulations and enhance the stormwater infrastructure throughout the region.
3. Secure funding for watershed management efforts throughout the region.
### Project Description

#### Healthy Environment: Shoreline Preservation

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</thead>
<tbody>
<tr>
<td></td>
<td>1. Preserve and enhance the region’s beaches and nearshore areas as environmental and recreational resources.</td>
<td>1. Continue to implement the Regional Shoreline Preservation Strategy.</td>
<td>1. Improve existing programs and develop new programs to restore and maintain beach sand.</td>
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<td>2. Prepare and implement habitat conservation plans for nearshore areas.</td>
<td>2. Explore new programs to help restore natural systems, thereby reducing sand depletion.</td>
</tr>
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</table>

**Funding Actions:**
Secure regional funding to continue sand replenishment activities consistent with Regional Shoreline Preservation Strategy.

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#### Healthy Environment: Air Quality

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<tbody>
<tr>
<td></td>
<td>1. Achieve and maintain federal and state clean air standards.</td>
<td>1. Implement transit-oriented development to reduce automobile trips.</td>
<td>1. Continue to implement the Regional Air Quality Strategy to achieve federal and state air quality standards.</td>
</tr>
<tr>
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<td>2. Promote reduction of industrial emissions through use of least-polluting cost-effective processes and technologies.</td>
<td>2. Implement emission control programs for stationary sources.</td>
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<td>3. Promote reduction of mobile source emissions through the adoption and enforcement of fuel specifications and the improvement of engine and emission equipment systems.</td>
<td>3. Site industries and high-traffic corridors in a way that minimizes the potential impacts of poor air quality on homes, schools, hospitals and other land uses where people congregate, and implement programs to ensure low income and minority populations are not disproportionately negatively affected.</td>
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<td>4. Encourage and create incentives for energy-efficient design in new development.</td>
<td>4. Implement the Transportation Control Measures contained in the federal and state air quality plans such as ridesharing, transit improvements, traffic flow improvements, and bicycle facilities and programs.</td>
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<tr>
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<td></td>
<td>5. Promote reduction of mobile source emissions through the adoption and enforcement of fuel specifications and the improvement of engine and emission equipment systems.</td>
<td>5. Implement programs and needed infrastructure to increase the availability and usage of energy-efficient vehicles such as hybrid electric vehicles, electric vehicles, or those that run on alternative fuels.</td>
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#### Economic Prosperity

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</thead>
<tbody>
<tr>
<td></td>
<td>1. Ensure a rising standard of living for all of our residents.</td>
<td>1. Continue to update and implement the Regional Economic Prosperity Strategy.</td>
<td>1. Expand access to international trade infrastructure, such as airports, seaports, and railways, and their associated cargo transport capabilities.</td>
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<td></td>
<td>2. Position the San Diego region to better compete in the global economy.</td>
<td>2. Develop and implement programs that provide workforce development and educational opportunities for all residents.</td>
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<td></td>
<td>3. Offer broad access to education and workforce training opportunities to all residents, with an emphasis on the economically disadvantaged to foster shared economic prosperity.</td>
<td>3. Identify and implement appropriate changes to regulatory processes and fee structures that would result in an improved business environment.</td>
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<td>4. Provide an adequate supply of housing for our region’s workforce and adequate sites to accommodate business expansion and retention.</td>
<td>4. Develop and maintain reliable, sustainable, and secure energy and water supply systems to help ensure the region’s economic prosperity.</td>
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### Project Description

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<tr>
<td>5. Improve the business environment.</td>
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<td>6. Produce more high-quality jobs in the region.</td>
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<td>7. Foster growth in the region’s emerging and high technology industries.</td>
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#### Public Facilities: Water Supply

1. Ensure a safe, sufficient, reliable, and cost-efficient water supply for the San Diego region.  
2. Continue to implement the San Diego County Water Authority Urban Water Management Plan and Regional Water Facilities Master Plan.  
3. Develop and/or implement programs and projects that promote water conservation, provide adequate emergency storage and carryover storage needs, add treatment capacity to satisfy treated water needs, and develop seawater desalination facilities.  
4. Maximize water resources through diversification strategies such as transfer agreements, water recycling and reclamation, seawater desalination, and sustainable groundwater development.  
5. Create opportunities to coordinate water supply strategies with areas beyond our jurisdictional boundaries.  
6. Develop allocation plans for potential future water shortages, such as those caused by drought, earthquakes, terrorist attacks, or diminished water treatment capacity.  

**Funding Actions:**

1. Promote and implement water efficiency and conservation techniques.  
2. Implement programs to educate the general public and the business community about the importance of efficient water use and water conservation methods.  

#### Public Facilities: Energy

1. Meet the region’s energy needs in a fiscally and environmentally sound manner.  
2. Promote the local production of cost-effective, environmentally sensitive energy to reduce our dependence on imported energy.  
3. Promote development regulations and design standards to maximize energy efficiency and minimize potential health risks.  
4. Create opportunities to coordinate energy supply strategies between governments in our greater border region.  
5. Locate energy facilities, such as power plants and/or transmission lines, so that lower income and minority communities are not disproportionately negatively affected.  
6. Significantly reduce the waste generated within the region by encouraging the use of products with less packaging and the reuse of existing resources.  
7. Develop and maintain reliable, sustainable, and secure energy and water supply systems to help ensure the region’s economic prosperity.  

**Funding Actions:**

1. Secure funding from the federal and state governments to ensure adequate development and maintenance of a diverse supply of water.  
2. Continue regional funding from the Water Authority and MWD to assist in the development of local projects and conservation measures.  

#### Public Facilities: Waste Management

1. Minimize the need for additional landfills and provide economically and environmentally sound resource recovery, management, and disposal facilities.  
2. Exceed the state-mandated 50 percent waste diversion goal.  
3. Use the Siting Element of the Countywide Integrated Waste Management Plan as a guide to locate facilities to meet the region’s future disposal needs.  
4. Identify and implement appropriate changes to regulatory processes and fee structures that would result in an improved business environment.  
5. Develop and implement programs that provide workforce development and educational opportunities for all residents.  
6. Develop and maintain reliable, sustainable, and secure energy and water supply systems to help ensure the region’s economic prosperity.  

**Funding Actions:**

1. Use the Siting Element of the Countywide Integrated Waste Management Plan as a guide to locate facilities to meet the region’s future disposal needs.  
2. Implement, promote, and provide incentives for composting, recycling, construction and demolition, and household hazardous waste management programs.  
3. Identify and implement appropriate changes to regulatory processes and fee structures that would result in an improved business environment.  
4. Develop and implement programs that provide workforce development and educational opportunities for all residents.  
5. Develop and maintain reliable, sustainable, and secure energy and water supply systems to help ensure the region’s economic prosperity.
## Project Description

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<tr>
<td>Borders: Jobs/Housing Balance</td>
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<tr>
<td>1. Achieve a better mix of, and accessibility to, jobs and housing throughout our international and interregional borders, and with the tribal governments.</td>
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<td>1. Implement IRP short-range transportation strategies: &lt;br&gt; • Coordinate interregional vanpool and carpool programs, &lt;br&gt; • Expand park-and-ride lots and improve rideshare information signage, &lt;br&gt; • Conduct joint outreach and marketing for transit, vanpool, and ridesharing programs, &lt;br&gt; • Implement interregional public transit commuter services, &lt;br&gt; • Collaborate with transit providers, &lt;br&gt; • Advocate employer-based rideshare incentives, &lt;br&gt; • Encourage adoption of alternative work schedules, &lt;br&gt; • Encourage telecommuting.</td>
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<tr>
<td>2. Increase collaborative economic development, transportation, and housing strategies throughout San Diego County in coordination with our neighbors.</td>
<td>1. Implement IRP jobs/housing accessibility strategies: &lt;br&gt; • Support/sponsor legislation that provides incentives for jobs/housing accessibility and mix programs, &lt;br&gt; • Identify and pursue funding to support the implementation efforts of the interregional partnerships.</td>
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<td>2. Encourage better job accessibility in housing-rich areas and housing accessibility in job-rich areas in our greater binational and interregional area.</td>
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<td>3. Develop and implement transportation strategies and facilities to address international and interregional commute patterns.</td>
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<td>1. Implement L-15 Interregional Partnership (IRP) long-range transportation strategies: &lt;br&gt; • Meet with transportation and planning authorities from Orange and Imperial Counties, tribal governments, and Mexico to discuss potential partnerships in those areas, &lt;br&gt; • Coordinate policies with Mexico to address binational commuting patterns.</td>
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<td>2. Support interregional partnerships such as the L-15 IRP by supporting or sponsoring legislation that addresses interregional jobs/housing accessibility.</td>
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<td>3. Implement L-15 IRP long-range transportation strategies: &lt;br&gt; • Support high-speed rail service in the L-15 corridor, &lt;br&gt; • Coordinate Caltrans/regional agency transportation planning in the L-15 Corridor.</td>
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<td>4. Implement IRP economic development strategies to increase job creation in southwest Riverside County: &lt;br&gt; • Facilitate greater collaboration between regional economic development entities, &lt;br&gt; • Improve job growth through the promotion of new employment opportunities in the cluster industries that drive the bi-regional economies,</td>
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<td></td>
<td>5. Implement IRP long-range housing strategies: &lt;br&gt; • Provide a range of housing affordability and housing types in all communities, &lt;br&gt; • Support fiscal reform to encourage housing construction, &lt;br&gt; • Provide incentives for the construction of moderate cost family housing near employment centers, &lt;br&gt; • Encourage the adoption of programs that result in the construction of moderate cost family housing near employment centers, &lt;br&gt; • Encourage infill development in older residential neighborhoods, &lt;br&gt; • Revitalize older residential neighborhoods.</td>
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<td></td>
<td>5. Implement IRP short-range transportation strategies: &lt;br&gt; • Coordinate interregional vanpool and carpool programs, &lt;br&gt; • Expand park-and-ride lots and improve rideshare information signage, &lt;br&gt; • Conduct joint outreach and marketing for transit, vanpool, and ridesharing programs, &lt;br&gt; • Implement interregional public transit commuter services, &lt;br&gt; • Collaborate with transit providers, &lt;br&gt; • Advocate employer-based rideshare incentives, &lt;br&gt; • Encourage adoption of alternative work schedules, &lt;br&gt; • Encourage telecommuting.</td>
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<td>2. Implement IRP long-range transportation strategies: &lt;br&gt; • Implement transit shuttle services for interregional transit, &lt;br&gt; • Preserve transportation rights-of-way and implement priority measures through the development process, &lt;br&gt; • Implement the L-15 high-occupancy vehicle system, &lt;br&gt; • Expand inter-regional commuter transit service by developing a bus rapid transit network,</td>
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<td></td>
<td>3. Implement IRP economic development strategies to increase job creation in southwest Riverside County: &lt;br&gt; • Actively engage in community outreach about the interregional partnership and its strategies.</td>
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<tr>
<td>Funding Actions:</td>
<td>1. Implement IRP jobs/housing accessibility strategies: &lt;br&gt; • Support/sponsor legislation that provides incentives for jobs/housing accessibility and mix programs, &lt;br&gt; • Identify and pursue funding to support the implementation efforts of the interregional partnerships,</td>
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<td></td>
<td>2. Develop additional interregional partnerships with neighboring counties, tribal governments, and Mexico to address land use and transportation needs.</td>
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### Project Description

#### Borders: Transportation

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</table>
| Identify and pursue funding to develop new partnerships. | 1. Complete trade corridors included in MOBILITY 2030.  
2. Coordinate regional transportation systems across our borders.  
3. Ensure an efficient flow of people and goods across the international ports of entry and along key trade and interregional commuting corridors.  
4. Reduce future long-distance binational and interregional commuting.  
5. Improve communication and collaboration regarding transportation issues with tribal governments. | 1. Support the California High-Speed Rail Authority’s efforts to bring high-speed rail service to the San Diego region.  
2. Support the use of technology at the ports of entry and the expansion of SENTRI-like programs for cargo and passengers.  
3. Encourage off-peak use of rail capacity for rail freight movement, and use managed/ HOV facilities for goods movement during off-peak periods.  
4. Coordinate transportation facilities at county lines.  
5. Review the potential for consolidating intermodal rail, truck, and air cargo freight terminals at specific staging areas.  
6. Support the use of transit centers and transportation facilities by agencies from outside of the county.  
7. Improve communications among SANDAG, Caltrans, the County of San Diego, and tribal governments to assess rural/reservation transit and transportation needs, and develop strategies to meet these needs. | |

#### Borders: Energy and Water Supply

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| Improve coordination of energy and water planning with Orange, Riverside, and Imperial Counties, tribal governments, and Baja California.  
Collaboratively promote conservation and efficient use of energy and water within the interregional and binational region.  
Enhance the reliability of the greater border region’s water supplies.  
Site energy and water facilities in a safe and equitable manner. | 1. Increase the use of renewable energy resources throughout the interregional and binational region.  
2. Develop a mechanism to reach consensus on energy issues at the interregional and international level.  
3. Continue to support the Border Energy Issues Group as a forum for discussion and development of strategies regarding binational energy issues.  
4. Site energy facilities in a manner that protects the health and safety of residents of all borders communities. | 1. Work with the borders communities to develop programs to promote the conservation and efficient use of energy.  
2. Develop programs to increase reliability of the interregional and binational aqueduct systems, provide adequate emergency storage and carryover storage needs, add treatment capacity to satisfy treated water needs, and develop seawater desalination facilities. | |

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**Energy Supply Actions**

- Increase the use of renewable energy resources throughout the interregional and binational region.
- Develop a mechanism to reach consensus on energy issues at the interregional and international level.
- Continue to support the Border Energy Issues Group as a forum for discussion and development of strategies regarding binational energy issues.
- Site energy facilities in a manner that protects the health and safety of residents of all borders communities.

**Water Supply Actions**

- Maximize border region water resources through diversification strategies such as transfer agreements, water recycling and reclamation, seawater desalination, and sustainable groundwater development.
- Support the ability of the borders communities to transfer water supplies that mutually meet their needs.

**Funding Actions**

- Secure funding for needed transportation infrastructure in the region’s border areas and coordinate the implementation of border-related capital and operating improvements with the federal General Services Administration (GSA).
- Support the use of transit centers and transportation facilities by agencies from outside of the county.
- Improve communications among SANDAG, Caltrans, the County of San Diego, and tribal governments to assess rural/reservation transit and transportation needs, and develop strategies to meet these needs.
- Continue to pursue funding through existing and future federal, state, and regional programs for the development of binational and interregional water projects.
### Project Description

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</thead>
</table>
| Borders: Environment | 1. Create and maintain a healthy binational and interregional environment.  
1. Preserve and enhance ecosystem biodiversity throughout the borders region.  
2. Protect habitat corridors, watersheds, and air basins that cross our binational and interregional boundaries. | 3. Work with the borders communities to develop programs to promote the conservation and efficient use of water.  
4. Support Mexican water agencies in their efforts to assure water reliability for the Northern Baja California region.  
5. Coordinate long term water planning with surrounding counties and tribal governments.  
6. Analyze and address the potential impacts of water supply infrastructure investments on surrounding communities in compliance with the California Environmental Quality Act (CEQA).  
7. Site water facilities in a manner that protects the health and safety of residents of all borders communities. | |
|  | 2. Coordinate habitat corridor planning with surrounding counties, state and federal agencies, tribal governments, and Mexico.  
2. Provide a cooperative, coordinated, and long-range conservation and management program for the region’s habitat preserve system that is tied to preserve systems in surrounding counties, tribal reservations, and Mexico.  
3. Assure coordination and cooperation of environmental agencies and agency staff across multiple regions, subregions, and subareas.  
4. Support actions to better understand the dynamics of local air basins and collaborate, where appropriate, along the U.S.-Mexico border on initiatives related to binational air quality.  
5. Support collaborative watershed planning with Baja California to improve the health of the Tijuana Watershed.  
6. Establish a crossborder cooperative effort to protect border communities from potentially harmful environmental impacts of projects on either side of the U.S.-Mexico border.  
7. Support comprehensive solutions to U.S.-Mexico border sewage problems to protect human health and the overall health of our local ecosystems. | 1. Identify and coordinate regional funding sources for watershed planning, habitat land acquisitions, and ongoing land management and biological monitoring functions with surrounding counties, tribal governments, and Mexico. |  

Funding Actions:  
1. Identify and coordinate regional funding sources for watershed planning, habitat land acquisitions, and ongoing land management and biological monitoring functions with surrounding counties, tribal governments, and Mexico.
### Project Description

#### Borders: Economic Development

<table>
<thead>
<tr>
<th>Goal</th>
<th>Policy Objectives</th>
<th>Recommended Actions</th>
<th>Funding Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Strengthen the position of the greater binational and interregional area as a strong competitor in the global marketplace.</td>
<td>1. Mutually support cooperative economic development and diversification of the economies of the greater borders region.</td>
<td>Support the I-15 Intergovernmental Partnership economic development strategies, as listed in the Jobs/Housing section of this chapter.</td>
<td>1. Encourage continued U.S. federal and state government financial support of the North American Development Bank (NADB) and the California Infrastructure and Development Bank (I-Bank).</td>
</tr>
<tr>
<td></td>
<td>2. Mutually capitalize upon each region's competitive advantages to maximize the greater borders region's economic prosperity.</td>
<td>2. Support policies and measures that promote economic development along the border in Mexico, such as the Maquiladora Program.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Enhance cultural, educational, and job training opportunities throughout the greater borders region.</td>
<td>3. Create a forum for increased communication with tribal governments regarding economic development.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Increase communications and coordination with tribal governments regarding activities and opportunities for economic development.</td>
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</tbody>
</table>

#### Borders: Homeland Security

<table>
<thead>
<tr>
<th>Goal</th>
<th>Policy Objectives</th>
<th>Recommended Actions</th>
<th>Funding Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Keep the region secure while protecting the quality of life in the greater border region.</td>
<td>1. Ensure protection of residents, infrastructure, and resource delivery systems within our greater border region.</td>
<td>Implement strategies to coordinate homeland security measures with all governments within the greater border region.</td>
<td>1. Develop adaptive strategies to address potential impacts from security measures.</td>
</tr>
<tr>
<td></td>
<td>2. Balance the implementation of homeland security measures with efficient cross-border and interregional travel and economic prosperity.</td>
<td>2. Encourage the implementation of security measures while enabling the growth of a prosperous economy within the greater border region.</td>
<td>2. Increase the use of technology at the ports of entry.</td>
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<td></td>
<td>3. Establish a meaningful mechanism for local input regarding homeland security measures affecting this region.</td>
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<td></td>
<td>4. Support measures to encourage users of border crossings to register and participate in ports of entry programs that facilitate identification of people and efficient movement of goods to ensure national security at the borders and beyond.</td>
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</tbody>
</table>

#### Social Equity: Urban Form

<table>
<thead>
<tr>
<th>Goal</th>
<th>Policy Objectives</th>
<th>Recommended Actions</th>
<th>Funding Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Create safe, healthy, walkable, and vibrant communities that are designed and built accessible to people of all abilities.</td>
<td>1. Place high priority on public facility investments that support compact, mixed-use, accessible, walkable neighborhoods that are conveniently located to transit.</td>
<td>Implement development projects and plans that:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Improve existing public facilities in smart growth areas to mitigate the impact of higher intensities of use.</td>
<td>• Provide a more diverse mix of housing types, jobs, services, and recreational land uses with good access for pedestrians and people with disabilities.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Protect public health and safety by avoiding and/or mitigating incompatible land uses.</td>
<td>• Preserve our natural resources.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Avoid and mitigate incompatible land uses, for example, by establishing buffers or transition zones between housing and industrial uses, for major transportation corridors that could pose health risks.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Develop an urban design best practices manual as a tool for local agencies, which addresses walkability, compatibility with public transportation, crime prevention, universal design, and accessibility as</td>
<td></td>
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Regional Comprehensive Plan FEIR 3-26
### Project Description

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<tr>
<td></td>
<td></td>
<td>Well as other urban design issues.</td>
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<td></td>
<td></td>
<td>3. Institute an education and outreach program to help local agencies develop community consensus on urban design that supports smart growth.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>4. Using the smart growth incentive principles, prioritize transportation infrastructure funding and other public facility investments in areas that support smart growth development and smart growth opportunities as identified by the Smart Growth Area Concept Map.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>5. Promote public and private investments in redevelopment and infill areas through the Smart Growth Incentive Program and other funding programs.</td>
<td></td>
</tr>
</tbody>
</table>

### Social Equity: Transportation

1. Provide equitable and accessible transportation services for all residents, regardless of income, age, or ability.
2. Ensure that the benefits and potential burdens of transportation projects are equitable.
3. Ensure that transit is accessible, available, and within the financial reach of as many residents as possible.
4. Design new transportation projects in such a way that they do not result in disproportionate health-related and environmental impacts on any community.
5. Develop and implement programs such as paratransit that improve transportation options for seniors and persons with disabilities.
6. Develop Transportation Project Evaluation Criteria based on the preliminary criteria themes in the RCP in order to prioritize transportation funding and transit service in areas where “smart growth” development has already occurred or is planned.

### Social Equity: Housing

1. Increase the supply and variety of housing choices, especially higher-density multi-family housing, for residents of all ages and income levels.
2. Provide incentives for local jurisdictions to meet their housing needs.
3. Provide an adequate supply of housing for our region’s workforce to minimize projected interregional and long-distance commuting.
4. Conserve and rehabilitate the existing housing stock.
5. Identify and rezone sites for entry-level small-lot single family houses, higher density multifamily housing, and mixed use housing in appropriate locations close to public transportation, employment, and other services.
6. Identify and rezone sites for homeless facilities, transitional housing, farmworker housing, and housing for those in need of supportive services, while not disproportionately siting them in any one community.
7. Research and hold forums on housing issues of local and regional interest, such as condominium conversions, fair housing, methods to preserve the supply of affordable rental units, tax incentives, and other topics.
8. Develop and implement local affordable housing programs and incentives, such as land banking, inclusionary housing, density bonus, second dwelling unit, and priority permit processing programs.
9. Develop and implement programs to conserve and rehabilitate our existing affordable housing stock, including rental apartments and mobile and manufactured homes.
10. Implement homeownership programs, such as cooperatives (co-ops), first time homebuyer programs, community land trusts, and low interest mortgage programs, and employer-assisted housing programs.
11. Develop and implement programs for new housing construction.
### Project Description

#### Social Equity: Healthy Environment

<table>
<thead>
<tr>
<th>Goal</th>
<th>Policy Objectives</th>
<th>Planning, Design, and Coordination Actions</th>
<th>Recommended Actions</th>
</tr>
</thead>
</table>
| 5.  | Provide safe, healthy, environmentally sound, and assessable housing, for all segments of the population. | that encourage environmentally sustainable construction (green building techniques) and the application of universal design principles to promote accessibility. | 5. Eliminate environmental and health hazards in existing housing and in new housing as it is sited, designed, and built.  
6. Develop strategies to provide replacement housing for lower income residents as conversion, demolition, redevelopment, and/or infill development occurs.  
7. Implement public education programs, showing positive examples and benefits of affordable and multifamily housing, and mixed use developments.  
**Funding Actions:**  
1. Ensure that housing affordability is included in the criteria for SANDAG’s smart growth incentive programs.  
2. Pursue and ensure the efficient use of existing funds for the creation of additional affordable housing for seniors, persons with disabilities, the homeless, and other lower income residents.  
3. Develop new funding sources for the creation of additional affordable housing for families, seniors, persons with disabilities, the homeless, and other lower income residents, such as housing trust funds, linkage fees, and bonds. |

#### Social Equity: Economic Prosperity

<table>
<thead>
<tr>
<th>Goal</th>
<th>Policy Objectives</th>
<th>Planning, Design, and Coordination Actions</th>
<th>Recommended Actions</th>
</tr>
</thead>
</table>
| 1.  | Ensure a rising standard of living for all of our residents. | Offer broad access to education and workforce training opportunities to all residents, with an emphasis on the economically disadvantaged to foster shared economic prosperity.  
2. Produce more high-quality jobs in the region.  
3. Provide an adequate supply of housing for our region’s workforce and adequate sites to accommodate business expansion and retention. | 1. Ensure that sufficient land with appropriate zoning and urban service (including infill and redevelopment) is available for future housing and employment needs.  
2. Provide infrastructure that enable emerging technologies and existing businesses that provide high-quality jobs to flourish.  
3. Attract venture capital resources to retain and attract industries that will produce more high-quality jobs in the region.  
**Funding Actions:**  
1. Develop and implement programs for new housing construction that encourage environmentally sustainable construction (green building techniques) and the application of universal design principles to promote accessibility.  
2. Eliminate environmental and health hazards in existing housing, and in new housing as it is sited, designed, and built.  
3. Develop and implement programs for new housing construction that encourage environmentally sustainable construction (green building techniques) and the application of universal design principles to promote accessibility.  
4. Eliminate environmental and health hazards in existing housing, and in new housing as it is sited, designed, and built.  
5. Develop and implement programs for new housing construction that encourage environmentally sustainable construction (green building techniques) and the application of universal design principles to promote accessibility.  
6. Develop and implement programs for new housing construction that encourage environmentally sustainable construction (green building techniques) and the application of universal design principles to promote accessibility.  
7. Develop and implement programs for new housing construction that encourage environmentally sustainable construction (green building techniques) and the application of universal design principles to promote accessibility.  
8. Develop and implement programs for new housing construction that encourage environmentally sustainable construction (green building techniques) and the application of universal design principles to promote accessibility. |

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**Deleted:** Develop and implement local affordable housing programs and incentives, such as inclusionary housing, density bonus, societal-dwelling units, and priority permit processing programs.  
**Deleted:** Maintain, preserve, and rehabiltate the existing housing stock.  
**Deleted:** Develop and implement programs to rehabilitate and preserve our existing affordable housing stock, including rental apartments.  
**Deleted:** Implement homeownership programs, such as cooperatives (co-ops), first time homeowner programs, community land trusts, location efficient mortgage programs, and employer-assisted housing programs.  
**Deleted:** Develop and implement programs to rehabilitate and preserve our existing affordable housing stock, including rental apartments.  
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**Inserted:** Evaluate the quality of surface water bodies in lower income and minority communities and develop...
### Project Description

<table>
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<tr>
<th>Goal</th>
<th>Policy Objectives[^1]</th>
<th>Recommended Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Equity:</strong> Public Facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Locate energy facilities, such as power plants and/or transmission lines, so that lower income and minority communities are not disproportionately negatively affected.</td>
<td><strong>General</strong></td>
<td>1. Local jurisdictions, acting individually and collectively through SANDAG, should incorporate smart growth / land use criteria into a competitive and incentive-based program for evaluating and prioritizing expenditures under the Regional Transportation Improvement Program (RTIP). This action provides a link to other infrastructure providers. <strong>[^1] 2</strong></td>
</tr>
<tr>
<td>2. Site waste disposal and management facilities in a manner that protects public health and safety and does not disproportionately negatively affect lower income and minority communities.</td>
<td><strong>Integrated Regional Infrastructure Strategy (IRIS)</strong></td>
<td>1. Local jurisdictions, acting through SANDAG, should incorporate smart growth / land use criteria into a competitive and incentive-based program for evaluating and prioritizing expenditures under the Regional Transportation Improvement Program (RTIP). This action provides a link to other infrastructure providers. <strong>[^1] 2</strong></td>
</tr>
</tbody>
</table>

#### Integrated Regional Infrastructure Strategy (IRIS)

1. Regularly assess the ability of our infrastructure to handle change and maintain our quality of life. 1, 2, 3
2. Align our infrastructure plans and investments with our RCP goals and objectives. **[^1] 2**
3. Address infrastructure needs in the region in a comprehensive manner, not piecemeal. **[^1] 2**
4. Create a planning framework that coordinates and links long term visionary goals with short term capital expenditures across infrastructure providers. **[^1] 2**
5. Provide adequate infrastructure improvements prior to or concurrent with the population growth occurring in smart growth opportunity areas. **[^1] 2**
6. The San Diego region should accept more responsibility for addressing our regional and subregional infrastructure needs, rather than relying on the State and Federal governments. **[^1] 2**

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[^1]: Deletions indicate that specific actions have been removed from the document.
### Project Description

<table>
<thead>
<tr>
<th>Goal</th>
<th>Policy Objectives</th>
<th>Recommended Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Security and General Services Administration</strong></td>
<td>To secure funds to accommodate the projected increase in border crossings by people and goods. In the event that these funds are inadequate, other funding sources, including user fees, should be considered.</td>
<td>Reduces the voter requirement for bond approval to 55 percent. This approval level would be consistent with the level currently required for education bond measures (Proposition 39).</td>
</tr>
</tbody>
</table>

#### Water
1. San Diego County Water Authority (Water Authority) should promote establishment of a statewide water market to facilitate efficient distribution and use of water resources.  
2. The Water Authority should place immediate priority on effectively implementing the water transfer agreement with the Imperial Irrigation District (IID).  
3. Since reliability of water supply is essential for the proper functioning of the local economy, the Water Authority should promote and develop seawater desalination as a significant, future source of water for the region, as envisioned in the Regional Water Facilities Master Plan.  
4. To further improve water supply and reliability, the region should maximize water recycling and reclamation efforts, linking recycling opportunities to new and existing development and reviewing the possible use of incentives.  

#### Wastewater
1. City of San Diego should develop and adopt a contingency plan to upgrade the Point Loma Wastewater Treatment Plant to meet secondary and tertiary treatment standards, in the event that the city is unable to renew the current waiver from the requirements of the Clean Water Act.  

#### Storm Water
1. State, regional, and local agencies should cooperatively develop a comprehensive and detailed master plan for storm water management in the region and an associated implementation plan, similar to regional programs for habitat conservation and shoreline sand replenishment.  
2. State, regional, and local agencies should identify a funding mechanism that would make feasible an ongoing program of strategic planning, prioritization, and implementation of storm water facility improvements.  

#### Solid Waste
1. County of San Diego in cooperation with other local jurisdictions should develop a strategic plan to bridge near term facility improvement programming and long-term goals of the Countywide Integrated Waste Management Plan and to establish and implement specific goals for waste diversion, export, and in-county disposal.  

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<td></td>
<td>Recommended Actions(^2)</td>
</tr>
<tr>
<td></td>
<td>Program and Project Development and Implementation Actions(^3)</td>
</tr>
</tbody>
</table>

2. Local jurisdictions should collect solid waste collection fees and dedicate a portion of the revenues to implement the goals of the strategic plan described above.

**Energy**

1. SDREO and SDG&E, with participation by SANDAG, should cooperatively refine and implement the Regional Energy Strategy to serve as a single, long-range energy master plan for the San Diego region.

**Education**

1. K-12 school districts should evaluate opportunities for and implement the expansion, renovation, and/or reconstruction of existing schools in urbanized areas, including, if appropriate, development of multi-story structures, to support the smart growth and urban form goals of the RCP.

2. K-12 school districts should make effective use of the provisions of Proposition 39 to obtain 55% voter approval of bond financing to expand, renovate, or reconstruct schools in urbanized areas.

3. K-12 school districts should work with local jurisdictions to maximize the joint use of school playgrounds and athletic fields to serve the local residents’ need for active parks.

4. The community colleges of the San Diego Imperial Counties Communities College Association should work to achieve parity with other regions in the allocation of state funds by the California Community Colleges.

5. In order to meet the region's increasing need for post-secondary education, community colleges should secure additional funding for operation through increased tuition and fees and for capital investment through 55% voter approval of bond financing.

**Parks and Open Space, Habitat Conservation, and Shoreline Protection**

1. Local jurisdictions, acting through SANDAG, should consider the feasibility of leveraging a portion of transportation funding (RTP and TransNet) required for the biological mitigation of transportation projects to maximize benefits for the region's habitat conservation programs. To this end, the local jurisdictions should:
   - Establish a regional habitat mitigation bank consisting of priority habitat acquisition lands identified by the region’s habitat conservation programs (MSCP and MHCP) and use its credits to mitigate the biological impacts of transportation projects.
   - Consolidate the mitigation budgets of separate transportation projects to fund the establishment and management of the regional mitigation bank.
<table>
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<tr>
<th>Goal</th>
<th>Policy Objectives(^1)</th>
<th>Planning, Design, and Coordination Actions(^2)</th>
<th>Recommended Actions</th>
<th>Program and Project Development and Implementation Actions(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Allocate a portion of the consolidated mitigation budget for the long-term management and monitoring of other preserve lands that currently do not have funding for those purposes.</td>
<td>Establish an entity, such as a conservancy, which will conduct the management and monitoring and obtain additional funds for habitat acquisition, management, and monitoring.</td>
<td>Work with other regional infrastructure providers, such as for water, wastewater, or energy, to consolidate mitigation banking needs, thus improving the efficiency and effectiveness of mitigation actions to further the goals of the regional conservation plans.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Local jurisdictions should consider the availability of local, active parks and the possibility of obtaining additional park resources, such as through joint-use of school playgrounds and athletic facilities, in identifying and prioritizing smart growth opportunity areas.</td>
<td>2. Local jurisdictions should take advantage of the strategic plan they have prepared, acting through SANDAG's Shoreline Preservation Committee, to finance shoreline sand replenishment. One possible funding source might include dedicating a portion of the transient occupancy tax collected throughout the region.</td>
<td>3. Cities/County</td>
</tr>
</tbody>
</table>

Footnotes indicate who is responsible for each policy objective and action listed in the table.

1. Federal/State Agencies
2. Regional Planning Agencies
3. Cities/County
4. Service Providers
5. Others
4.0 ENVIRONMENTAL SETTING

The San Diego region spans more than 4,200 square miles in the southwest corner of the continental United States. Geographically, the Pacific Ocean provides the county’s western boundary and the Republic of Mexico lies just to the south. Camp Pendleton to the north separates San Diego from Orange County and Los Angeles, and San Diego shares a border with Riverside County. The agriculturally-based Imperial County provides the County’s eastern border.

The greater San Diego region is characterized by four topographic provinces or regions; the coastal plain, the foothills, the mountains, and the desert. The coastal plain ranges in elevation from sea level to approximately 600 feet above mean sea level (AMSL) and varies from rolling terraces to steep cliffs along the coastline. The foothills in the San Diego region range in elevation from 600 to 2,000 feet AMSL and are characterized by rolling to hilly uplands that contain frequent narrow, winding valleys. This area is traversed by several rivers as well as a number of intermittent drainages. The mountain region has steep-sided mountains that are typically covered with granitic boulders and chaparral vegetation. Elevations range from 2,000 to 6,000 feet AMSL. The eastern portion of San Diego County and all of Imperial County is within the desert region. Elevations range from sea level to 3,000 feet AMSL and the terrain includes mountains, alluvial fans, and desert floor. In addition to the natural features described above, there are numerous golf courses, city and community parks, and large, primarily undeveloped landholdings such as Marine Corps Base (MCB) Camp Pendleton and Marine Corps Air Station (MCAS) Miramar contributing to the scenic quality of the region.

The influences of climate, topography, and soils combine to determine the character of the biological environment of any region. Each of these factors varies greatly throughout the greater San Diego County area, resulting in a wide diversity of vegetation communities which include coastal wetlands, grasslands, vernal pools, sage scrub, chaparrals, riparian woodlands, oak woodlands, coniferous forests, and creosote bush scrub. At least 50 different plant communities are known to occur (Oberbauer 1991).

Politically, the San Diego region consists of 18 cities and the County of San Diego. The San Diego region also contains 17 sovereign tribal governments, administering 18 Native American reservations, the largest number of reservations in any county in the continental United States. Also considered in this analysis are the cities of Murrieta and...
Environmental Setting

Temecula in southwestern Riverside County, the city of San Clemente in Orange County, Calexico in Imperial County, and Tijuana in Baja California, Mexico.

For each of the topical issue areas, the existing setting/existing condition is described in the first section of each analysis section. For example, the land use analysis is presented in Section 5.1, and the existing conditions for land use are discussed in Section 5.1.1.

4.1 Regional Land Use

The San Diego Association of Governments (SANDAG) maintains a comprehensive database of land uses in the region.

- The region comprises over 2.7 million acres of land (more than 4,200 square miles).

- About 60 percent of the total land area is unavailable for private development, including military bases, public lands, dedicated parks and open space, and land constrained for environmental reasons.

- To date, more than 190,000 acres have been set aside for habitat protection, with more planned to be added over time.

- There are more than 8,500 miles of roads in the region, which cover more than 85,000 acres of land.

- There are 18 Indian reservations in the region; more than any other county in the nation, comprising almost 130,000 acres. These reservations are located within or adjacent to the unincorporated areas and are served by County roads and rural highways.

- Of the remaining 557,000 acres of vacant land designated for residential development, 93 percent (519,000 acres) is planned for very low density residential use (less than one home per acre), and most is in the rural back country areas dependent upon limited groundwater supplies.
4.2 Current Population and Housing Profile

Based upon the 2000 census, the following population and housing statistics describe the San Diego region:

- The median age is 33.2 years – about 10 percent younger than the nation as a whole.

- Twenty-six percent of the region’s residents are under the age of 18; 11 percent are 65 and older.

- The region is ethnically diverse: 55% non-Hispanic White, 27% Hispanic, 13% Asian/Other, 5% Black.

- Thirty-three percent of residents over the age of five speak a language other than English at home.

- 65 percent of residents age 25 or older have at least some college education, and 30 percent have a bachelor’s degree or higher.

- Eighteen percent of people age five and over have a disability.

- Median annual household income is more than $47,000, compared to the national figure of $42,000. However, 13 percent of the region’s residents live in poverty.

- The region’s housing stock is relatively new: 62 percent of the region’s homes were built after 1970.

- The region’s housing stock is 60 percent single family, 35 percent multifamily, and five percent mobile homes.

- Fifty-five percent of households are owner-occupied, 45 percent are renter-occupied.
Environmental Setting

4.3 Future Regional Growth

The San Diego region will continue to grow over the next 30 years, but at a slower pace than in previous decades. SANDAG’s Final 2030 Regional Growth Forecast projects that between 2000 and 2030 the region will add about one million more people, over 300,000 new homes, and more than 400,000 new jobs. Table 4.3-1 summarizes past and future regional growth trends.

Table 4.3-1
Regional Growth - 1970-2030

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</thead>
<tbody>
<tr>
<td>Population</td>
<td>1,357,900</td>
<td>2,813,800</td>
<td>3,855,100</td>
<td>1,455,900</td>
<td>107%</td>
<td>1,041,300</td>
<td>27%</td>
</tr>
<tr>
<td>Housing Units</td>
<td>450,800</td>
<td>1,040,100</td>
<td>1,354,100</td>
<td>589,300</td>
<td>130%</td>
<td>314,000</td>
<td>23%</td>
</tr>
<tr>
<td>Jobs</td>
<td>566,900</td>
<td>1,384,700</td>
<td>1,824,000</td>
<td>817,800</td>
<td>144%</td>
<td>439,300</td>
<td>24%</td>
</tr>
</tbody>
</table>


Using population data from 1970 to the present and projections for population increases through 2030, the San Diego region has and will continue to have an average growth rate of two percent annually with a standard deviation of 0.01, with the majority of the population growth having already occurred during the 1970s and 1980s. In each category, substantially less growth is projected than what was experienced between 1970 and 2000. This forecast is based on currently adopted land use plans and policies of the 18 cities, and the most recent information from the County of San Diego’s General Plan Update for the unincorporated area.

Future Regional Housing Needs

When taken together, current land use plans do not accommodate the amount of growth anticipated in the San Diego region. More land for homes and apartments, even taking into account areas with the potential for residential redevelopment or infilling, would need to be designated in the plans. While population would increase by 37 percent over the forecast period, housing would grow by just 30 percent. Similar to the present situation in the region, demand for housing would continue to outpace the supply.
This imbalance would result in at least four outcomes: high housing costs, low vacancy rates, more persons per household (“doubling up”), and an increase in long-distance interregional commuting by the region’s employees who seek less expensive housing in Riverside County and Baja California. Census data from 1990 and 2000 indicate that the number of people commuting from Riverside County almost tripled in the last decade to about 29,000. A more recent survey found the number to be increasing steadily.

In 2001, SANDAG produced a study entitled *An Analysis of Growth Slowing Policies for the San Diego Region*. Its purpose was to look at the potential impacts of public policies designed to slow population growth in the region. One of the scenarios tested was a housing-cap policy that would reduce the supply of new housing by 40 percent from the amount expected to be built between 2000 and 2020. Rather than a corresponding 40 percent reduction in future population, the scenario projected the region would see only an eight percent drop by 2020. Most people would simply adapt to the situation, primarily through larger households (more persons per household) and more interregional commuting.

The same type of outcome resulted when SANDAG simulated reducing future job growth by 40 percent. People and businesses adapted, and the effect on population growth was minimal. However, in both cases, the impacts on social equity were decidedly negative. The less affluent bear a disproportionate share of the effects that result from inadequate job and housing opportunities.

### 4.4 Population Trends

During the late 1980s, the San Diego region was adding as many as 90,000 persons per year, which reflects an annual growth rate of three percent. Since the recession ended in the mid-1990s, population growth in the region has averaged about 50,000 annually (1.2% growth rate). San Diego’s growth rate is slowing, and that trend is anticipated to continue. By the mid-2020s, the growth rate will fall below the national rate of about one percent. Currently, Riverside County (2.8%), Imperial County (2.7%), and Tijuana (5.0%) are all growing faster than San Diego County. Historically, domestic migration (people moving to and from other parts of the state or the nation) has fluctuated each year, usually based on the condition of the local economy. However, an increasing amount of the region’s growth between now and 2030 will be the result of natural increase. Figure 4.4-1 compares the region’s historic and future growth rates to those of the nation.

*Regional Comprehensive Plan PEIR*  

4-5
Demographic trends

As the region grows, some basic demographic characteristics of the population will change, with the region becoming both older and more ethnically diverse. The region as a whole is expected to grow by 37 percent by 2030.

Note: Other includes Native American, Native Hawaiian, Other Pacific Islander, and Two or More Races.

Sources: U.S. Census Bureau, SANDAG Final 2030 Forecast
Environmental Setting

Figure 4.4-2 shows the forecasted changes by ethnic group between 2000 and 2030. At some point, perhaps around 2012, there will be no ethnic majority in the region. Statewide, that is true today. The 2000 Census found that 55 percent of Californians are non-Hispanic Whites.

In addition to ethnic changes, our region also is aging. Almost 30 percent of the region’s population is composed of Baby Boomers, the huge group of people born between 1946 and 1964. Their presence will increase the median age in the region from today’s 33.2 years to 37 years in 2030. By 2030, the number of people age 65 and older will have increased by 128 percent. Table 4.4-1 details the change in age range composition in year 2030.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17</td>
<td>13%</td>
</tr>
<tr>
<td>18-65</td>
<td>29%</td>
</tr>
<tr>
<td>Over 65</td>
<td>128%</td>
</tr>
</tbody>
</table>

Source: SANDAG 2003b.

4.5 Housing Trends

San Diego residents tend to live in detached houses rather than apartments or condominiums. Currently, about 60 percent of the region’s housing stock is single-family units, and about 35 percent is multifamily (the rest are mostly mobile homes) (Figure 4.5-1). The scarcity of vacant, useable single-family land, combined with increasing congestion on roads and highways, will lead to a shift in housing characteristics in the future. Projections suggest that more than half of the 314,000 units the region expects to build by 2030 will be multifamily, including low-rise, high-rise, attached town homes, and mixed-use projects. Even with this trend, multifamily homes will still comprise less than 40 percent of the region’s housing units in 2030.

If home construction continues at a slower pace than population increase, interregional commuting will increase. Over the 30-year period, it is estimated that more than 90,000 households will, in effect, be “exported” to Riverside County or Baja California unless there are significant changes to today’s land use plans. Long-distance commuting, both
interregional and from within the region, puts a tremendous strain on the regional transportation network.

Providing homes for an additional one million people over the next 30 years will require more than 300,000 new housing units to be built within the region. With these additional units comes the potential for greatly increased traffic congestion. Therefore, the region faces a twofold challenge that the Regional Comprehensive Plan (RCP) addresses:

1. To provide the housing that is needed to support the coming population and economic growth, and;
2. To build and manage a transportation system that provides mobility and equity to all of the region’s residents.
5.0 ENVIRONMENTAL ANALYSIS

This section describes the existing conditions of the study areas and the environmental impacts that would occur with adoption of the proposed Regional Comprehensive Plan (RCP). The analysis of each environmental issue area is presented as follows:

- Existing Condition;
- Method of Analysis Method;
- Significance Criteria;
- Impact Analysis;
- Mitigation Measures; and
- Significance of Impacts with Significance Conclusions.

As noted in Chapter 3.0, the RCP is a planning document that identifies a series of goals, policy objectives and actions. Because it is a planning document intended to guide actions through the year 2030, the level of evaluation in the PEIR is program-level and primarily qualitative. There is not sufficient information on individual projects to provide detailed, quantitative analysis. This detailed level of analysis will be provided in subsequent project-specific CEQA documents as projects are proposed.
5.1 LAND USE

5.1.1 Existing Conditions

This section discusses the existing land use patterns in the project study area. The study area is composed of all of the lands within the County of San Diego, and limited portions of Orange, Riverside, and Imperial counties, as well as Northern Baja within the Republic of Mexico. This section also discusses the regulatory framework for land use within the San Diego region.

Existing Land Use Patterns - San Diego County

In 2004, the County of San Diego had a population of approximately 2,972,988 people, 1,099,071 housing units, and 1,442,214 employees. Existing land uses throughout the San Diego region show a general pattern of urban development along the coast, with inland communities forming a second location of development. Further to the east, the mountains and deserts are sparsely developed with pockets of residential and agricultural-related development. Figure 5.1-1 depicts the existing land uses in the study area, and Figure 3.2-1 depicts the cities in San Diego County.

City of San Diego

San Diego contains approximately 1.3 million people, which is about 44 percent of the region’s population. There are approximately 470,000 housing units and 742,000 jobs in the city. The central business district (downtown San Diego) is the location for the administrative center of the City of San Diego and the County government as well as many businesses and commercial functions. The San Diego downtown area is the subject of an ongoing redevelopment program that includes restoration of historical building fronts, new office construction, residential buildings and a major league ballpark. More than $3 billion has been invested in downtown since 1975 (CCDC 2004). Over the past 15 years, a ballpark, major regional shopping center, hotels, and numerous housing projects and office buildings have been built, are under construction, or planned for downtown. This construction activity reinforces the central business district as the business core of San Diego, and today, more than 75,000 people work downtown and more than 25,000 live downtown (CCDC 2004).

Surrounding the central core are the high-density communities of mostly older single-family residences and apartment buildings, which composed the residential and
commercial areas of the city prior to World War II. In the early 1900s, transportation needs within these areas were served by local streets and streetcars connecting the areas to downtown. North Park, South Park, East San Diego, the communities of southeastern San Diego, (Barrio Logan, Golden Hill, and City Heights) are examples. In many of these neighborhoods, single-family homes have been replaced by multi-family units, although restoration and upgrading of the older residences is occurring throughout the area.

Projects that already implement smart growth policies can be seen throughout the city. For example, residents, planners, and designers developed a smart growth plan for the area surrounding the Euclid Avenue Trolley Station. Implementation of the plan has begun with construction of the $45 million Market Creek Plaza and a community center. In addition, many new housing units have been constructed in the Little Italy and Columbia planning areas downtown. Both of these are higher density, walkable, and well-served by transit.

To the north, northwest, northeast, and west of the downtown area, residential communities include Mission Hills, Hillcrest, Normal Heights, Kensington, Talmadge and the College area. These are moderately high density neighborhoods, with single-family and smaller apartment buildings predominating.

North of these communities, Mission Valley stretches east-west along the San Diego River. Developed in the 1960s after construction of I-8, this is an important commercial, office, residential, and recreation center with numerous hotels, Qualcomm Stadium, and a variety of restaurants and theaters. Regional shopping centers, high-rise office buildings, and large multi-family residential complexes characterize the area.

In November 1997, the Mission Valley Trolley line opened. The extension of the trolley is under construction from its current terminus at the Mission San Diego Station, just east of Qualcomm Stadium, to the Grossmont Center Station via San Diego State University. It is scheduled to open in 2005.

North of Mission Valley, there are a number of residential neighborhoods and industrial-commercial areas that were developed after World War II. The communities of Bay Park, Clairemont, Clairemont Mesa, Linda Vista, Serra Mesa, Tierrasanta, Del Cerro, and San
Carlos are dominated by single-family subdivisions with a lesser number of apartment buildings. Kearny Mesa is the site of major industrial activity, with large industrial and research facilities.

La Jolla, Pacific Beach, Mission Beach, Ocean Beach and Point Loma are the city’s coastal strip communities, which provide single-family homes and higher-density apartment complexes. La Jolla contains regional commercial and office activity in its small central area. The remainder of the beach communities offer significant beach-related tourist activities.

The northern part of the city is experiencing continued growth within the large, undeveloped tracts of land available for new construction. North of SR-52 are the residential communities of University City, Mira Mesa, Carmel Valley, Scripps Ranch, Rancho Penasquitos, and Rancho Bernardo. Significant nodes of office, commercial, and industrial development are located in the Golden Triangle (between I-5, I-805, and SR-52), along Mira Mesa Boulevard and Miramar Road, and in Sorrento Valley and near SR-56 West.

San Diego also includes the communities of San Ysidro and Nestor, adjacent to the US/Mexico border. These areas include a variety of residential densities as well as significant regional commercial development.

**Other Incorporated Cities**

The region includes 17 other incorporated cities, in addition to San Diego (Figure 3.2-1). Six major freeways (I-5, I-15, I-805, SR-52, SR-56, and SR-78) are located in the western section of the San Diego region. The cities of Del Mar, Solana Beach, Encinitas, Carlsbad, and Oceanside are located along the northern coast. Each of these cities includes an older, community core area close to the beach, with lower density residential development. Coronado, another coastal city, is located adjacent to Naval Air Station (NAS) North Island and also is physically constrained by the Air Station and San Diego Bay. Imperial Beach, on the coast in the southern corner of the San Diego region, includes a beach-oriented area with older residential development. Imperial Beach is also surrounded by other cities (San Diego and Coronado) and does not contain any large tracts of undeveloped land.
The cities of Lemon Grove, La Mesa, Santee, El Cajon, Chula Vista, and National City formed the original suburbs of San Diego. Each of these cities has an older urban core and well-established residential areas. El Cajon, Chula Vista, and National City have significant industrial and commercial activities within their boundaries. Chula Vista is expanding rapidly to the east. For example, construction is underway on the 23,000-acre master planned community of Otay Ranch. The urban villages of Otay Ranch are developing with compact core areas that emphasize pedestrian opportunities and transit-oriented design.

The four North County inland cities of Vista, San Marcos, Escondido, and Poway predominantly contain large-lot, single family residences and provide employment in regional commercial, industrial, and office complexes.

**Unincorporated Areas**

San Diego County has identified 23 community and sub-regional areas throughout the unincorporated county. Unincorporated communities adjacent to incorporated cities tend to have more urbanized land use patterns. Other San Diego County communities typically have an identifiable community core surrounded by more rural land use patterns. The unincorporated portion of the County has a population of approximately 446,000, a housing stock of approximately 153,000 units, and has approximately 106,000 jobs.

**Military Facilities and Tribal Governments**

The San Diego region also contains large federally owned areas, including the U.S. military bases at Camp Pendleton, Miramar, and North Island as well as the Cleveland National Forest and land owned by the Bureau of Land Management. In addition, tribal lands are generally located in the central part of the region between the developed coastal strip and the mountains. Anza-Borrego Desert State Park includes much of the desert portion of the region.

**Agriculture**

Agriculture represents an important land use as well as an important contributor to the economy in the San Diego region. In 2002 the total reported agricultural value in the county was more than 1.2 billion dollars (County of San Diego 2002). The amount of...
Land Use

land devoted to agriculture is declining. In 1991, approximately 172,790 acres were planted with various field, vegetable, fruit and nut, flower, and nursery products (County of San Diego 1991). Gradual urbanization of once rural areas in the County has decreased the amount of lands in agricultural production. By 2000 the amount had decreased to 66,617 acres (County of San Diego 2002).

Existing Land Use Patterns – Southern Orange County

Orange County has a population of approximately 2.8 million people (SCAG 2000). Southern Orange County includes the cities of San Clemente, Dana Point, and San Juan Capistrano. Interstate 5 passes through the western portion of San Clemente, and also provides a natural corridor for commercial development. Additional commercial land uses are located along El Camino Real. Residential land uses in San Clemente include a blend of medium and low density, with the higher density residential generally located west of I-5. A node of industrial land use is located in the eastern portion of the city, south of Avenida Pico (SCAG 2004).

Existing Land Use Patterns – Southwestern Riverside County

Riverside County has a population of approximately 1.5 million people (SCAG 2000). Southwestern Riverside County includes the cities of Temecula, Murrieta, Lake Elsinore and Hemet. Many of the residents in these cities commute out of the county for work in other areas, including San Diego County. Almost 35 percent of all workers from communities in southwestern Riverside commute to San Diego County (SANDAG 2003a). This portion of Riverside County also includes the 8,300-acre Santa Rosa Plateau Ecological Preserve and a large portion of land associated with the Cleveland National Forest.

Temecula and Murrieta are the two largest cities closest to the Riverside/San Diego border. With regard to the existing land uses in Temecula, commercial uses are concentrated in the northwest portion of the City, along the I-15 corridor, and along Winchester Road. Industrial uses are located almost exclusively west of I-15. Single-family residential represents the overwhelming majority of residential land use within the City, with these uses located east of I-15 (SCAG 2004).

Murrieta is located north of Temecula, at the confluence of the I-15 and I-215. The portion of the City between the I-15 and I-215 is primarily developed with single family
residences. West of I-15 is a combination single family residential and agricultural uses. An additional node of single family residential land use is located east of I-215. Commercial uses are concentrated along the I-15 and I-215 corridors (SCAG 2004).

Existing Land Use Patterns - Imperial County

Imperial County, located to the east of San Diego, includes a significant amount of agriculture. Imperial County is sparsely populated compared to the rest of Southern California. Per the 2000 census, approximately 142,000 people live in Imperial County. Major population centers include El Centro, Brawley, Calexico, and Holtville. The City of El Centro is located in the Imperial Valley and has a population of approximately 35,000 people. Land uses in El Centro are generally divided between the east and west sides of the Union Pacific Railroad. Land use east of the railroad is primarily industrial, and land west of the railroad is a mix of residential and commercial uses. The City of Brawley is located in the Imperial Valley and has a population of 22,000 people. Land uses include a mix of residential commercial, and industrial. The Calipatria State Prison is located north of Brawley. The City of Calexico located adjacent to the Mexico border, has a population of approximately 28,000 people and is surrounded by agricultural uses. The town includes a mix of residential, commercial, and industrial uses.

Existing Land Use Patterns - Northern Baja, Republic of Mexico

The Mexican state of Baja California del Norte abuts the southern boundary of San Diego County. Population in the state is overwhelmingly concentrated along the border, specifically in Tijuana and Mexicali. These areas support residential, commercial, industrial, and agricultural uses. Additional population is concentrated along the highway corridor connecting Tijuana and Ensenada along the western edge of the state. With regards to the Republic of Mexico, this section focuses on the municipality of Tijuana.

The population of Tijuana is approximately 1.2 million (INEGI 2000a), which is about 49% of the population of Baja California del Norte. The commercial core area of Tijuana is represented by the Zona Centro and the Zona Rio in the central area of the City. The channelized portion of the Tijuana River also passes through this portion of the city, and this core commercial area also includes a U.S/Mexico border crossing. An additional commercial core is located south of the Aeropuerto Internacional G. Abelardo L. Rodriguez.
East and west of the commercial core is residential development. There are more than 265,000 housing units in Tijuana, with an average of 4.1 residents per home (INEGI 2000b). In the most western portion of the city, adjacent to the Pacific Ocean, is the community of Playas de Tijuana. This area was developed as a residential area with complementary commercial, services and public land use facilities. Low density residential areas were established adjacent to Playas de Tijuana in order to utilize the infrastructure and services available to the community (IRSC 2000).

Tijuana also supports large areas of industrial land use. The Mesa de Otay area, located in the eastern portion of the city, and near the Otay Mesa border crossing contains a concentration of industrial development. Additional concentrations of industrial land use are located adjacent to the eastern and southern boundary of the airport. Tijuana and Northern Baja have also benefited from its geographical position next to the United States. Mexico has implemented various strategies to bolster the economic development along its northern border, the most recent being the maquiladora program.

Accelerated urban growth without a proper master plan has created serious problems for urban services in Tijuana. Additionally, lack of zoning enforcement has produced combinations of incompatible land uses, such as the proximity of industry that uses dangerous chemicals and residential areas.

An estimated 40,000 people live in Tijuana and work in San Diego County (SANDAG 2004).

**Land Use Planning Framework**

**General Plans**

Land use decisions occur through local general plan and zoning processes, which determine the type, location, and density of future development. However, because these land use decisions have impacts at the regional level, growth and land use have come to the forefront of the San Diego region’s planning agenda. Land use within each city and county in the San Diego, Orange, Riverside and Imperial regions is governed by general plans, which designate appropriate land uses throughout the jurisdiction and define the specific goals, policies, and objectives the local jurisdiction has determined to be important. In general, most plans recognize existing land uses and determine acceptable future uses for undeveloped land. Some cities also have community plans. A community...
Land Use

plan is used to plan the future of a particular area to a finer level of detail than the general plan and supplements the policies of the general plan.

Three jurisdictions that cover large areas of the region – the County of San Diego, the City of San Diego, and the City of Chula Vista, are currently updating their general plans to provide a new focus on smart growth policies. That is, they support more mixed-use and potentially higher-density projects, especially near employment centers and along major transit corridors. The goal is to help create more livable communities by relieving regional traffic congestion and reducing commute times, contributing to the conservation of remaining open space, increasing affordable housing opportunities, and providing more environmentally friendly development.

**County of San Diego General Plan Update**

General Plan 2020 (GP2020) is a comprehensive update of the San Diego County General Plan, establishing future growth and development patterns for the unincorporated areas of the County. It will identify the potential size and distribution of the County’s future population – balancing housing, employment and infrastructure needs with resource protection. Compared to the existing General Plan, this update will focus population growth in the western areas of the County where infrastructure and services are more readily available.

General Plan 2020 distributes 80% of the future population to unincorporated communities inside the San Diego County Water Authority (SDCWA) Boundary. The plan also reduces low-density development and increases medium to high-density development in north and east San Diego County communities. The plan proposes increased housing densities within the village limit line of various rural communities but has reduced development densities in outlying backcountry areas.

**City of San Diego General Plan Update**

The City of San Diego is currently updating its general plan. The City’s *Progress Guide and General Plan* was initially adopted in 1979. In 2002, the City Council adopted the Strategic Framework Element and Action Plan. The Strategic Framework Element is a new Chapter of the General Plan that guides the update of the remaining general plan elements. The Action Plan included establishing the Pilot Villages Program. In order to implement this new element, all of the remaining general plan elements must be updated,
and a new Economic Prosperity Element prepared to achieve internal consistency within the General Plan and to implement the City of Villages strategy. The goal is to take the revised elements to the City Council for consideration in November 2005 (City of San Diego 2003 and 2004).

The City of Villages concept is a land use and growth strategy that would result in mixed-use village centers with attached home and commercial and employment uses. The village would be linked to a transit system. In general, this plan relies on redevelopment and infill of older commercial areas for the development of new village sites. In January 2004, the City’s Planning Commission endorsed five pilot projects. These projects are located in the following communities: Mid-City, San Ysidro, College Area, North Park, and a project in the Chollas View/Lincoln Park area. The City Council voted and approved the projects in February 2004.

**City of Chula Vista General Plan Update**

The City of Chula Vista recently initiated a comprehensive general plan update that is currently scheduled to be completed in 2004. The last comprehensive update was completed in 1989. The plan was also amended to reflect adoption of the Otay Ranch General Development Plan/County of San Diego Otay Sub-regional Plan in 1993 to address this approximate 23,000-acre property in the City’s Planning Area. The current update process includes completion of baseline studies to gather information of existing conditions; an intensive public outreach effort; and the formation of goals, objectives, and policies to guide the City in future development. One focus of the planning process will be the enhanced linkage between transit and land use patterns that can make transit a viable alternative to the automobile.

**Land Use Planning – Tijuana and the Border Region**

Land use planning within Tijuana is recently under the coordination of the Instituto Municipal de Planeación (IMPlan). Formed in 1998 as an autonomous planning institute, the IMPlan’s goal is to plan for urban growth and land use within the city (Ganster 1999). Before the inception of IMPlan in Tijuana, a lack of financial resources and the single three-year term of each administration made long-term planning efforts difficult. IMPlan has been designed to carry over from one administration to the next.
In 1996, SANDAG joined six other Southern California and six Baja California governments to establish the Bi-State Transportation Technical Advisory Committee (BTTAC). This working committee brings together the agencies responsible for transportation planning along the entire border of the two states. The Committee has supported a number of border-related transportation programs to be conducted by the responsible agencies and developed a binational transportation plan for the 200 km wide border region.

SANDAG also maintains a Borders Committee which was created to provide policy direction to the SANDAG Board regarding issues or activities related to planning and coordination between the San Diego region and its surrounding regions, including Orange, Riverside, and Imperial Counties and the Republic of Mexico. The Committee for Binational Regional Opportunities (COBRO), which serves as a working group to the Borders Committee, advises on short and long-term border related activities, issues and actions. COBOR also provides recommendations on binational border-planning.

Additionally, the International Boundary & Water Commission (IBWC) is involved with major land use issues on the border, particularly sewage issues that are transborder in nature. The IBWC is an international body composed of a United States Section and a Mexican Section.

**California Coastal Act**

The California Coastal Act (CCA) of 1976 was enacted to “protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources” (Public Resources Code Section 30001.5). The act required each jurisdiction within the coastal zone to prepare a local coastal program (LCP) consisting of land use plans, zoning, and other implementing actions as needed to comply with the policies set forth in Chapter 3 of the act. These affect housing and other land uses, coastal access, and public works, including all types of transportation facilities. The County and City of San Diego, the coastal cities, and the Port District are subject to these requirements. The adopted local coastal programs are administered by the local agencies with ultimate approval by the California Coastal Commission (CCC).
**Airport Land Use Commission**

In each county containing a public airport, an airport land use commission (ALUC) is required to assist local agencies in ensuring compatible land uses in the vicinity of existing or proposed airports to coordinate planning at state, regional, and local levels; to prepare and adopt an airport land use plan as required by Public Utilities Code Section 21675; to review plans, regulations, or other actions by local agencies and airport operators; and to review and make recommendations regarding the land uses, building heights, and other issues relating to air navigation safety and promotion of air commerce. The San Diego County Regional Airport Authority is the ALUC for the San Diego region. It is responsible for the preparation of comprehensive land use plans (CLUPs) for the civilian and military airports. Local jurisdictions are responsible for land use controls around the airports.

**Regional Planning**

The member agencies of San Diego Association of Governments (SANDAG) and the Southern California Association of Governments (SCAG) also work together in efforts to provide regional planning.

**Preservation of Open Space, Agriculture, and Mineral Resources**

**Preservation of Open Space**

With efforts such as the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP), the cities and San Diego county have identified remaining natural habitat areas and have designed an interconnected region-wide preserve system to ensure the viability and movement of species throughout the region (see Section 5.10, Biological Resources). When fully implemented, the regional preserve system will serve as a natural urban limit line focusing growth away from sensitive habitat areas.

Regional habitat planning efforts have resulted in the large-scale implementation of habitat preservation policies. These policies have had a profound effect on land use development, especially in previously undeveloped portions of unincorporated San Diego. In these areas, endangered species and sensitive habitat protection have combined to constrain development even where otherwise allowed under the existing general plan.
While some development is still anticipated, environmental constraints limit development in areas where it was previously anticipated.

**Preservation of Agricultural Land**

Nearly all cities and the County of San Diego have adopted general plans and zoning regulations that address, to some degree, the preservation and use of agricultural lands. The County recognizes the value of agriculture as a long-term land use and has developed policies to improve and promote methods for preserving agriculture.

The California Land Conservation Act of 1965 – commonly referred to as the Williamson Act – enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971. San Diego County contains lands under Williamson Act contracts.

**Mineral Resources Zones**

In accordance with classification guidelines established by the State Mining and Geology Board and in compliance with the Surface Mining and Recovery Act of 1975 (SMARA), the State Geologist is required to classify, on the basis solely of geological factors and without regard to existing land use and ownership, the following:

- Areas containing little or no mineral deposits;
- Areas containing significant mineral deposits; or
- Areas containing mineral deposits, the significance of which requires further evaluation.

The State Mining and Geology Board subsequently defined the above categories into Mineral Resource Zones (MRZs). These zones are established based on the presence or absence of substantial sand and gravel deposits and crushed rock source areas. The guidelines for establishing the MRZs are as follows:
### Classification Description of Mineral Zone

<table>
<thead>
<tr>
<th>MRZ Classification</th>
<th>Description of Mineral Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRZ-1</td>
<td>Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that there is little likelihood for their presence.</td>
</tr>
<tr>
<td>MRZ-2</td>
<td>Areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence.</td>
</tr>
<tr>
<td>MRZ-3</td>
<td>Areas containing mineral deposits, the significance of which cannot be evaluated from available data.</td>
</tr>
<tr>
<td>MRZ-4</td>
<td>Areas where available information is inadequate for assignment to any other MRZ zone.</td>
</tr>
</tbody>
</table>

The MRZ-2 areas within San Diego County are primarily located in river valleys or in and along creeks. Notable MRZ-2 areas in northern San Diego County much of the San Luis Rey River Valley, Buena Vista Creek, Gopher Creek Canyon, San Marcos Creek and the San Dieguito River Valley. Within the central portion of San Diego County, MRZ-2 locations are primarily associated with the San Diego and Sweetwater rivers. In southern San Diego County, the Otay and Tijuana rivers include MRZ-2 areas. Some MRZ-2 areas may already be developed with urban uses, such as the majority of the San Diego River corridor (Mission Valley) in the City of San Diego.

5.1.2 Method of Analysis

The land use impact analysis compares the future land use scenarios recommended in the RCP with the existing and planned land use scenarios under the adopted land use plans for the region. The analysis includes both plan-to-ground and plan-to-plan analysis as dictated by the significance criteria. The plan-to-ground analysis considers the impacts of the RCP to the current environmental conditions that exist “on the ground” as of the Notice of Preparation (NOP) date for this project and provides the basis for the required CEQA analysis. The plan-to-plan analysis compares the RCP with the existing land use plans for the San Diego region. Additionally, the RCP goals/objectives that would directly or indirectly impact land use were analyzed. Six issue areas are determined to be relevant to land use, and these issue areas were analyzed in terms of the significance thresholds presented in Section 5.1.3. The six issue areas are summarized below.
Urban Form

- Focus future population and job growth away from rural areas and closer to existing and planned job centers and public facilities to preserve open space and to make more efficient use of existing urban infrastructure.

- Create safe, healthy, walkable and vibrant communities that are designed and built accessible to people of all abilities.

- Preserve the positive aspects and unique sense of place of existing communities, while allowing flexibility for change.

- Protect agricultural areas, natural systems, high-value habitat areas (as reflected in adopted habitat plans), and other open-space areas that define the character of our communities.

- Facilitate redevelopment and infill development.

- Protect public health and safety by avoiding and/or mitigating incompatible land uses.

5.1.3 Significance Criteria

The RCP would have a significant land use impact if the project would:

Regional

- Conflict with the land use portion of any applicable general plan or other applicable local or regional plans;

- Convert undisturbed vacant land, agricultural land, open space or other natural resource to urban uses.

- Conflict with an adopted habitat conservation plan or community conservation plan.
Land Use

- Result in a loss of availability of a locally important mineral resource (MRZ-2) as identified by Special Report 153 of the California Division of Mines and Geology.

- Reduce density in the region as a whole, thereby creating sprawl.

Localized

- Physically divide an established community;

- Result in development or other activities that are incompatible (e.g., noise, hazards, lighting, objectionable odors, or other operational activities) with existing development or land uses.

5.1.4 Impact Analysis

Would the RCP conflict with the land use portion of any applicable general plan or other applicable local or regional plans?

Implementation of the RCP will encourage that individual jurisdictions within the San Diego region revise their general plans to identify future areas for redevelopment and/or more intensified land use. The cities of San Diego and Chula Vista and the County of San Diego are currently updating their general plans to incorporate smart growth concepts. If the RCP is adopted, these jurisdictions may amend their general plans to reflect other smart growth elements as defined in the RCP. Other jurisdictions within the San Diego region will need to prepare land use assumptions to increase opportunities for mixed use and more intensive land uses in feasible locations, particularly near transit stations along existing and planned transportation networks. The RCP identifies Smart Growth Opportunity Areas (SGOA) (Figure 3.4-1). The SGOA represent the areas targeted for more intensified land use. Additional portions of San Diego County being considered for increased density include, but are not limited to, the unincorporated communities of Valley Center, Fallbrook, Ramona, Alpine, and Lakeside. Existing designations or uses identified in the land use elements covering these areas do not reflect the density needed to fully realize development within the SGOA. Therefore, implementation of the RCP will result in significant land use impacts due to a conflict with some existing general plans in the San Diego region.
Implementation of the SGOA has the potential to impact local coastal programs (LCPs) in the region’s coastal jurisdictions, including the cities of Oceanside, Carlsbad, Encinitas, Solana Beach, Del Mar, San Diego, Coronado, National City, Imperial Beach, and Chula Vista. Additionally, the San Diego Unified Port District’s (SDUPD) Port Master Plan (PMP) could also be impacted. These impacts are associated with the potential for modifying land uses and/or increasing density in areas covered by the LCPs and the PMP, thus resulting in the need to amend these documents. This represents a significant land use impact.

With respect to jurisdictions outside of San Diego County, implementation of the RCP will not result in a substantial conflict with the general plans of these jurisdictions, since the RCP is intended to guide development only within San Diego County. Although a primary goal of the RCP is to reduce the export of housing units to those areas outside the County, it would not be anticipated that those jurisdictions would adjust their general plans to reflect the reductions in demand. It is anticipated that growth in those jurisdictions could proceed at a slower rate and potential demand for growth in currently rural areas would be reduced.

In summary, implementation of the RCP could result in a conflict with the land use planning documents for several jurisdictions in the San Diego region. These documents include general plans, local coastal programs, and the Port Master Plan. This conflict represents a significant land use impact.

*Would the RCP convert a substantial amount of undisturbed vacant land, agricultural land, open space or other natural resource to urban uses?*

The RCP encourages future development to be compact, and to occur in areas of existing development. However, future development, as designated in existing local plans, during the RCP planning horizon will include the conversion of some undisturbed vacant land, agricultural open space, and natural habitats. Implementation of the RCP will likely reduce the amount of development that converts vacant, agricultural and other natural habitats that would occur if the RCP is not adopted. This growth is occurring today and is particularly evident in southwestern Riverside County, where undisturbed vacant land and agricultural lands are being developed. It would be expected to continue in areas to the northeast and south of San Diego County to accommodate the demand for the excess dwelling units that would not be accommodated in San Diego County. Further expansion into these areas represents a significant impact.
The RCP recommends implementation of the MOBILITY 2030 plan. While the bulk of transportation improvements in the MOBILITY 2030 plan would result in expansion of facilities in existing, heavily traveled corridors, construction of some features in isolated locations may convert resource lands, including agricultural land or planned open space preserves, to transportation uses, resulting in a significant impact.

In summary, future development will result in impacts to undisturbed vacant land, agricultural land, open space and other natural resources converted to urban uses. Implementation of RCP would reduce development in these areas, however, not to below a level of significance. While implementation of the RCP would result in less conversion of open space land than would occur without the RCP, it would result in unavoidable significant impacts to these resources.

**Would the RCP conflict with an adopted habitat conservation plan or community conservation plan?**

By focusing on compact, more environmentally sensitive development patterns, impacts to native habitat, wildlife, and habitat fragmentation and isolation within the San Diego region would generally be less than expected without the project. However, future growth will still take place, and will, in some cases, require the conversion of undeveloped land and result in impacts to biological resources. This would result in plan-to-ground impacts, which are addressed in the biological resources section (Section 5.10).

The policies of the RCP direct most of the future growth into areas with adopted or draft subarea plans. These plans designate areas suitable for development and areas proposed for conservation. In the event that growth is targeted in designated conservation areas, the subarea plans contain provisions requiring that additional land be added to the conservation area that has a better biological value than those lands removed for development. If these conditions cannot be met, then the subarea plans cannot be modified and impacts cannot occur. Any modifications to the adopted subarea plan would be subject to oversight by the United States Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and require environmental review and public comment pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

Because existing provisions in the subarea plans require that any modifications to the plan result in better biological values, implementation of the RCP is not anticipated to
have a significant impact on an adopted habitat conservation plan or community conservation plan.

**Will the RCP result in the loss of availability of a locally important mineral resource (MRZ-2) as identified by Special Report 153 of the California Division of Mines and Geology?**

To determine if the RCP would have an impact to mineral resources, the location of MRZ-2 lands was considered along with the identified SGOA. Some of the identified SGOA correspond with identified MRZ-2 lands, including portions of the I-15 corridor near Mira Mesa Boulevard and the I-8 corridor in Mission Valley (CDMG 1982). Since development associated with the RCP is focused in already developed areas, the expectation is that access to the MRZ-2 lands for resource extraction would already be restricted. Implementation of the RCP may result in an indirect impact to lands currently under mineral resource extraction that fall within the identified SGOA, such as operations in Mission Valley. These resource extraction area lands may realize a better and higher use with implementation of the RCP. Most notably, this occurs in the Mission Valley area of San Diego County, which includes a major east-west transportation corridor (I-8) and a trolley line. Mineral resources extraction areas have been converting to commercial and residential use as resources are exhausted, land leases expire, and better and higher uses are realized. This is expected to continue to occur with implementation of the RCP, thus resulting in a significant impact.

**Would the RCP reduce density in the region as a whole, thereby creating sprawl?**

The RCP has a specific goal of reducing the export of residential units and directing those units into the SGOA in the San Diego region. To determine if the RCP would reduce density and create sprawl, Year 2000 density in San Diego County is compared with the density anticipated in 2030 with and without implementation of the RCP. As shown in Table 5.1-1, in 2000, the region had a population density of 1.68 persons/developed acre. In 2030, without implementation of the RCP, density is anticipated to increase to 1.81 persons/developed acre. With implementation of the RCP, the density in 2030 is expected to further increase to 1.87 persons/developed acre. Population density is anticipated to increase in the future with or without implementation of the RCP, though more density will be realized with implementation of the RCP. In summary, future development with and without the RCP will result in greater population density in the San Diego region, with a greater population density realized from implementation of the RCP. Because the
density is increased, implementation of the RCP would not create sprawl. Thus, no significant impact would occur.

Table 5.1-1
2000 vs. 2030 San Diego Region Density Comparison

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2030 without RCP</th>
<th>2030 with RCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed Acres</td>
<td>1,676,719</td>
<td>2,130,169</td>
<td>2,130,169</td>
</tr>
<tr>
<td>Population</td>
<td>2,813,833</td>
<td>3,855,085</td>
<td>3,985,725</td>
</tr>
<tr>
<td>Density</td>
<td>1.68</td>
<td>1.81</td>
<td>1.87</td>
</tr>
</tbody>
</table>

Notes:
(1) Represents residential, industrial, commercial/service, office, school, roadways, agricultural/extractive, parks, and military uses.
(2) Developed acreage in 2030 is expected to be the same with or without implementation of the RCP, since the majority of additional housing units proposed under the RCP will be accommodated in already developed areas.
(3) Represents population increase from 46,000 additional housing units proposed under the RCP with an average of 2.84 persons per unit, for a total increase of 130,640 persons.
Source: SANDAG, 2003f.

Would the RCP physically divide an established community?

Implementation of the RCP could physically divide an established community. Redevelopment within an existing community may result in the emergence of several nodes or centers instead of one node which is the case in many existing communities. However, some components of the RCP could serve as a catalyst to make communities more cohesive and connected. The transportation policy objectives identified in the RCP specifically include the provision for creating more walkable and bicycle-friendly communities. This may provide more unity within a community. In conclusion, implementation of the RCP could result in significant impacts due to dividing an established community.

Would the RCP result in development or other activities that are incompatible (e.g., noise, hazards, lighting, objectionable odors, or other operational activities) with existing development or land uses?

Implementation of the RCP could result in development that is incompatible with existing development or existing land uses. By focusing future development into more compact areas and in areas of existing development, the potential exists that individual projects
would include localized incompatible land uses. For example, increased density and the development of mixed-use projects will result in the construction of residential uses in proximity to commercial uses. This may result in noise compatibility issues. The RCP does include recommendations with regard to urban form and calls for the use of buffers to mitigate incompatible land uses. Specifically, two of the urban form actions call for creating buffers between agricultural and urban development, and establishing buffers or transition zones between housing and industrial uses. Additionally, the RCP calls for the development of an urban design best practices manual as a tool for addressing urban design issues. The best practices manual would be prepared by the appropriate regional planning agency, city, county, or service providers, and would address land use compatibility issues.

Another land use incompatibility issue pertains to locating future development along existing and planned transportation corridors. Roadways, trolley lines, and bus routes are sources of noise that may result in ambient conditions that are not suitable for residential development. Section 5.6 of this Program Environmental Impact Report (PEIR) includes a noise impact analysis. Additionally, noise compatibility issues would be addressed in future project-level environmental review, and appropriate mitigation measures would be required. Potentially significant impacts associated with land use incompatibility could occur as a result of implementation of the land use density increases; however, for the most part, if future development adheres to the planning policies, impacts should be reduced to below a level of significance.

5.1.5 Mitigation Measures

LU-1 Local jurisdictions shall adopt land use plan amendments, including general plan amendments, local coastal program amendments, and an amendment to the Port Master Plan to eliminate inconsistencies between future land uses and densities identified in these plans as a result of implementing smart growth policies.

LU-2 Local jurisdictions shall discourage conversion of agricultural lands outside of planned urbanized areas. Where proposed development significantly conflicts with established agricultural operations appropriate buffers or other measures shall be incorporated to reduce land use incompatibility impacts to below a level of significance.
LU-3 Local jurisdictions shall discourage conversion of MRZ-2 lands until the existing mineral resources on that land have been exhausted, or are no longer economically feasible to process or market.

LU-4 Project-level noise impact analysis shall be performed, where appropriate, to ensure that changes in land uses and densities do not result in significant noise conflicts or impacts. Noise mitigation measures recommended in these analyses shall be implemented that reduce impacts associated with land use incompatibility to the levels established by each jurisdiction for the appropriate land use.

LU-5 An Urban Design Best Practices manual shall be prepared by SANDAG to establish site-specific measures to reduce land use incompatibilities (divide an established community, noise, hazards, lighting, objectionable odors, or other operational activities).

5.1.6 Summary of Impacts with Significance Conclusions

Implementation of the RCP could result in a significant conflict with the land use planning documents for several jurisdictions in the San Diego region. These documents include general plans, local coastal programs, and the Port Master Plan. With implementation of mitigation measure LU-1, the impact would be reduced to below a level of significance.

Future development will result in significant impacts from conversion of undisturbed vacant land, agricultural land, open space and other natural resources to urban uses from a plan-to-ground perspective. From a plan-to-plan perspective implementation of the RCP would reduce the amount of land used to accommodate the same population levels. This would be a beneficial effect. While implementation of the RCP would result in less conversion of open space land than would occur without the RCP, it would result in some unavoidable impacts to these resources. Implementation of mitigation measure LU-2 would mitigate some of the impacts associated with the loss of agricultural lands. However, the impacts to agricultural lands would not be reduced to below a level of significance, since some loss of agricultural land would still occur. Mitigation measures Bio-1, Bio-6, and Bio-7 would reduce some of the impacts to open space and other natural resources. However, conversion of land will still occur. Therefore, the impact remains significant and unmitigated.
With implementation of LU-3, impacts to mineral resources would be reduced to below a level of significance.

Implementation of the RCP could result in development that is incompatible with existing development or land uses. Higher densities can result in the location of incompatible land uses, or result in increased noise conditions. With implementation of mitigation measures LU-4 and LU-5, land use impacts would be reduced to below a level of significance through application of development standards.

Implementation of the RCP could physically divide an established community through creation of multiple nodes in areas where one node exists. This represents a significant impact, which would be mitigated to below a level of significance by implementation of mitigation measure LU-5.
5.2 POPULATION/HOUSING/EMPLOYMENT

5.2.1 Existing Conditions

In 2004, the County of San Diego had a population of 2,972,988 people, 1,099,071 housing units, and 1,442,214 employees.

Housing in San Diego County is predominantly low density. Most homes are single family detached and owner-occupied. Housing costs in San Diego have been increasing faster than incomes. The median income family ($60,100 in 2003) can afford a home in the $200,000 to $250,000 range. In 2003 however, the median cost of a new home rose to $466,000. Similar disparities exist between rents and income for rental housing. Additionally, the demand for housing exceeds supply. While 94,000 housing units were constructed in the region in the 1990s (one home for every 3.4 residents), the comparable ratios of new homes per new resident have historically been much lower (2.9 in the 1980s and 1.9 during the 1970s) (SANDAG 2003a).

To compensate for the high home prices and demand, many residents are moving outside the region or across the border to find relief from the region’s tight housing market. This results in longer commutes, more traffic congestion, and increased air pollution. Approximately 30,000 southwestern Riverside County residents commute into San Diego County for work, and an additional 40,000 workers cross the border from Mexico for San Diego region jobs (SANDAG 2003a).

Although per capita income in San Diego remains above the national average, its growth in recent years has been below growth levels seen elsewhere in both the state and nation. Employment in the region is highly dependent on growth in a series of “cluster industries.” Growth in industries such as communications, computers and software, biotechnology and financial services continue to provide major sources of job and wage rate growth. Continued growth in these targeted “cluster industries” depends on attraction and maintenance of a trained, competitive labor force able to access points of employment (SANDAG 2003a).

5.2.2 Methods of Analysis

The program analysis compares the projected growth and shift of residential density, population, and employment under the Regional Comprehensive Plan (RCP) to the significance criteria presented in Section 5.2.3.
5.2.3 Significance Criteria

The following criteria were used to determine significance of impacts from the adoption or implementation of the RCP on population, housing, and employment:

**Regional**

- An increase or shift of greater than 3 percent of the forecast increase in residential units or population between 2004 and 2030 in the RCP study area from outside the County to locations within the County may constitute a significant impact, since such a shift may result in a substantial change in the location and pattern of future growth.

- An increase in average residential density in the RCP study area of greater than 3 percent above the average density which is forecast to prevail in 2030 without the project.

- An increase in employment of more than 3 percent is a significant impact.

The threshold is established as 3 percent because the average annual growth rate of population and housing in San Diego County 1960 to 2000 was calculated at 2 percent, with a standard deviation of 1 percent. This increase in residential units and/or population is considered to be significant because it will lead to other indirect physical impacts discussed elsewhere in the PEIR.

**Local**

- An increase of population, residential density, or employment of 10 percent locally.

5.2.4 Impact Analysis

This section evaluates the population, housing, and employment impacts resulting from implementation of the RCP. The RCP accommodates additional growth within the County (when compared to existing policies), by increasing housing density, units and population in Smart Growth Opportunity Areas (SGOA) and is incorporated. With implementation of the RCP, 46,000 housing units, which would otherwise be located outside San Diego County, are accommodated within the County in the SGOA.
The RCP, while increasing density within the SGOA, coordinates and provides supporting infrastructure within and adjacent to the SGOA. The policies within the RCP provide for reduction in impacts generally associated with increased density. Linkage of residential location and workplaces, encouragement of mixed-use development, expanded housing choices and targeting of the type and location of supportive infrastructure allows for:

- Reduction of total trip generation,
- Reduction in trip length and duration,
- Savings of travel time by shortening trip length and duration,
- Reduction of traffic congestion,
- Reduced cost of travel by reducing trip length,
- Expanded housing choice,
- Increased housing affordability and
- Support for increased employment within the local region.

The increased residential density (shifted units) would otherwise be developed and population would reside in adjacent counties or in the adjacent border area of Mexico.

The current San Diego Association of Governments (SANDAG) regional growth forecast, without implementation of the RCP is shown in Table 5.2-1. The regional growth forecast, with implementation of the RCP, is shown in Table 5.2-2. The impacts of the RCP at the regional level are determined by comparing the projected conditions with adoption of the RCP at 2030, versus the existing SANDAG growth forecast, as shown in Table 5.2-3.

<table>
<thead>
<tr>
<th>Table 5.2-1</th>
<th>Regional Growth Forecast</th>
<th>2004 – 2030 Without RCP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Forecasts</strong></td>
<td><strong>Year 2004</strong></td>
<td><strong>Year 2030 without RCP</strong></td>
</tr>
<tr>
<td>Population</td>
<td>2,972,988</td>
<td>3,855,085</td>
</tr>
<tr>
<td>Housing units</td>
<td>1,099,071</td>
<td>1,354,136</td>
</tr>
<tr>
<td>Employment</td>
<td>1,442,214</td>
<td>1,824,030</td>
</tr>
</tbody>
</table>
Table 5.2-2
Regional Growth Forecast
2004 – 2030 With RCP

<table>
<thead>
<tr>
<th>RCP Forecast</th>
<th>Year 2004</th>
<th>Year 2030 – with RCP</th>
<th>2030 Increase</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>2,972,988</td>
<td>3,985,725</td>
<td>1,012,737</td>
<td>34%</td>
</tr>
<tr>
<td>Housing units</td>
<td>1,099,071</td>
<td>1,400,136</td>
<td>301,065</td>
<td>27%</td>
</tr>
<tr>
<td>Employment (1)</td>
<td>1,442,214</td>
<td>1,836,174</td>
<td>393,960</td>
<td>27%</td>
</tr>
</tbody>
</table>

Note:
(1) Induced service employment increase resulting from the additional 46,000 households under RCP is calculated at 0.264 service jobs per additional household (SANDAG 2004).

Table 5.2-3
Regional Growth Forecast
With and Without RCP

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>2030 With RCP</th>
<th>2030 Without RCP</th>
<th>Difference</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>3,985,725</td>
<td>3,855,085</td>
<td>130,640</td>
<td>3.4%</td>
</tr>
<tr>
<td>Housing Units</td>
<td>1,400,136</td>
<td>1,354,136</td>
<td>46,000</td>
<td>3.4%</td>
</tr>
<tr>
<td>Employment (1)</td>
<td>1,836,174</td>
<td>1,824,030</td>
<td>12,144</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

Note:
(1) Induced service employment increase resulting from the additional 46,000 households under RCP is calculated at 0.264 service jobs per additional household (SANDAG 2004).

Would the RCP result in an increase or shift of greater than 3 percent of the forecast increase in residential units or population between 2004 and 2030 in the RCP study area from outside the County to locations within the County?

As shown in Table 5.2-3, implementation of the RCP would result in a 3.4 percent increase in both population and the number of housing units. Since this increase exceeds the threshold criteria of 3 percent, implementation of the RCP would result in a significant regional impact for population and housing.

Would the RCP result in an increase in average residential density in the RCP study area of greater than 3 percent above the average density which is forecast to prevail in 2030 without the project?

As shown in Table 5.2-4, implementation of the RCP would result in an increase in residential density at the regional level. Without implementation of the RCP, there is expected to be 1.81 persons per developed acre. That will increase to 1.87 persons per
developed acre with implementation of the RCP. This represents a 3.3\% increase. Since the significance threshold is a 3 percent increase, implementation of the RCP will result in a significant increase in regional density.

### Table 5.2-4
2000 vs. 2030 San Diego Region Density Comparison

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2030 without RCP</th>
<th>2030 with RCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed Acres (1)**</td>
<td>1,676,719</td>
<td>2,130,169</td>
<td>2,130,169</td>
</tr>
<tr>
<td>Population</td>
<td>2,813,833</td>
<td>3,855,085</td>
<td>3,985,725</td>
</tr>
<tr>
<td>Density (persons/developed acre)</td>
<td>1.68</td>
<td>1.81</td>
<td>1.87</td>
</tr>
</tbody>
</table>

**Notes:**

(1) Represents residential, industrial, commercial/service, office, school, roadways, agricultural/extractive, parks, and military uses.

(2) Developed acreage in 2030 is expected to be the same with or without implementation of the RCP, since the majority of additional housing units proposed under the RCP will be accommodated in already developed areas.

(3) Represents population increase from 46,000 additional housing units proposed under the RCP with an average of 2.84 persons per unit, for a total increase of 130,640 persons.

Source: SANDAG, 2003f.

**Would the RCP result in an increase in employment of more than 3 percent?**

Employment increases induced by the transfer of housing units and population under the RCP would be distributed throughout the County. The projected 12,170 induced service industry jobs would be dispersed among multiple employers and not concentrated in any single employer or area. As shown in Table 5.2-3, implementation of the RCP would result in a 0.7 percent increase in employment. This is below the significant threshold of 3 percent, therefore, implementation of the RCP results in less than significant regional employment impact.

**Will the RCP result in an increase of population, residential density, or employment of 10 percent locally?**

At the local level, density transfer and an increase of housing units at the neighborhood, site or project level will be accomplished through individual communities’ general plan, specific plan, and development entitlement processes. It is likely that multiple “projects” will meet and exceed the 10 percent population and housing impact.
Employment impacts at the project level are unlikely to meet the 10 percent threshold. Employment impacts are induced indirectly from increased population demand for services, and are dispersed among multiple service businesses and locations throughout the County. A 10 percent increase in employment at a specific business is unlikely to occur. Therefore, implementation of the RCP will have a less than significant impact to local employment.

5.2.5 Mitigation Measures

There are no feasible or practicable mitigation measures to reduce the significant population and housing impacts and significant regional density impact other than adoption of the No Project/Existing Plans Alternative or the Reduced Intensity Alternative. The physical effects of population and housing result in physical changes to transportation/circulation, air quality, noise, biological resources, cultural resources, energy, and public service/utility system impacts. The physical changes and mitigation measures for those indirect impacts are addressed in the applicable mitigation sections.

5.2.6 Summary of Impacts With Significance Conclusions

At the regional level, implementation of the RCP would result in significant population and housing impacts, whereas, employment impacts would be less than significant. There are no feasible mitigation measures to reduce the population and housing impacts, therefore the regional population and housing impacts remain significant and unmitigated.

At the local level, implementation of the RCP would result in significant population and housing impacts, whereas, employment impacts would be less than significant. There are no feasible mitigation measures to reduce the population and housing impacts. Therefore, the local population and housing impacts remain significant and unmitigated.

Population and housing increases associated with implementation of the RCP would also result in a significant increase in regional density. There are no feasible mitigation measures to reduce the regional density increase. Therefore, the impact remains significant and unmitigated.
5.3 VISUAL RESOURCES

5.3.1 Existing Conditions

Regional Setting

The San Diego region is an area of abundant and varied scenic resources. The topography of San Diego County and the surrounding areas contributes greatly to the overall quality of the existing visual setting. In general terms, the region is characterized by four topographic provinces or regions; the coastal plain, the foothills, the mountains, and the desert. Each is described briefly below.

The coastal plain ranges in elevation from sea level to approximately 600 feet above mean sea level (AMSL) and varies from rolling terraces to steep cliffs along the coastline. The coastal plain provides expansive views in all directions, with the coastline visible from some local roadways. Much of the coastal plain is already developed with varying densities of urban, suburban, and rural development. Agricultural uses within the coastal area include row crops, field flowers, and greenhouses. Some of the major visual resources within the coastal area include the Pacific Ocean’s bays, lagoons, and harbors (San Diego Bay, Mission Bay Park, Los Peñasquitos Lagoon, San Dieguito Lagoon, San Elijo Lagoon, Batiquitos Lagoon, Agua Hedionda Lagoon, Buena Vista Lagoon, and Oceanside Harbor); coastal parks (Border Field State Park, the Tijuana Estuary, Silver Strand State Beach, Torrey Pines State Reserve and Beach, and San Onofre State Beach); prominent land and water features (Cabrillo National Monument on Point Loma, Sunset Cliffs, La Jolla Cove, Soledad Mountain, and the offshore Coronado Islands); and Camp Pendleton. In Tijuana, closest to the U.S./Mexico Border, the coastal area would be characterized as developed with urban uses.

The foothills of the San Diego region range in elevation from 600 to 2,000 feet AMSL and are characterized by rolling to hilly uplands that contain frequent narrow, winding valleys. This area is traversed by several rivers as well as a number of intermittent drainages. The foothills are also developed with various urban, suburban, and rural land uses. Agriculture consists primarily of citrus and avocado orchards as well as row crops. Notable scenic resources, including rivers, lakes, and open bodies of water, are Otay River, Sweetwater River, San Diego River, Upper and Lower Otay Lakes, Sweetwater Reservoir, Lake Hodges, San Vicente Reservoir, Mission Trails Regional Park, Santee Lakes Regional Park, Tecolote Canyon, Los Peñasquitos Canyon Preserve, Old Town State Historic Park, and Presidio Park.
The mountain region is described as having steep-sided mountains that are typically covered with granitic boulders and chaparral vegetation. Elevations range from 2,000 to 6,000 feet AMSL. The mountain areas are largely undeveloped with scattered rural communities, including Alpine, Pine Valley, Campo, and Julian. Scenic resources include the large park areas such as Cleveland National Forest, Agua Tibia Wilderness Area, San Mateo Canyon Wilderness, Palomar Mountain State Park, and Cuyamaca Rancho State Park as well as the large water bodies such as El Capitan Reservoir, Barrett Lake, Lake Morena, and Lake Cuyamaca. In 2003 the Cedar, Paradise, and Otay fires burned approximately 375,000 acres of San Diego’s scenic back country (San Diego Union Tribune 2004). All of Cuyamaca Rancho State Park was burned, as well as lands in the Cleveland National Forest. Additionally, in 2002, the Pines fire burned approximately 61,700 acres along the crest of the Peninsular Range. Vegetative recovery in the burned areas is expected to take many years.

The eastern portion of San Diego County and all of Imperial County is within the desert zone. Elevations range from sea level to 3,000 feet AMSL and the terrain includes mountains, alluvial fans, and desert floor. The majority of the region is contained within the Anza-Borrego Desert State Park. Development within this area includes the small desert communities of Borrego Springs and Ocotillo. In Imperial County, several small to midsized cities are located in the Imperial Valley. The desert region provides expansive views of the surrounding area, which is characterized by dramatic landforms, native desert habitat, and low desert valleys.

In addition to the visual resources described above, there are numerous golf courses, city and community parks, and large, primarily undeveloped landholdings such as Marine Corps Base (MCB) Camp Pendleton and Marine Corps Air Station (MCAS) Miramar contributing to the scenic quality of the county. The wide range of visual features in the San Diego region help to define communities, provide visual relief from the urban development, and provide recreational opportunities. San Diego’s natural features contribute significantly to the quality of life within the region.

**Scenic Highways**

Recognizing the need to protect the state’s scenic beauty, the California State legislature created the Scenic Highway law in 1963. The law established the California State Scenic Highway Program, which is aimed at the protection and enhancement of California’s beauty, amenity, and quality of life. The program is administered by California Department of Transportation (Caltrans) and consists of the laws, incentives, and
guidelines that are intended to protect the scenic, historic, and recreational resources within designated scenic highway corridors. A scenic corridor is defined by Caltrans as a “band of visible land along and generally adjacent to but outside of the highway right-of-way having scenic, historical or aesthetic characteristics” (Caltrans 1996). It is often described as the “view from the road.” A scenic highway is made up of the road itself and the right-of-way. State goals for scenic highways include the following:

- Preserve and enhance the unique visual, biological, and ecological resources of the Scenic Highway Corridor;

- Prevent and eliminate (where reasonably possible) conditions that detract from or compromise the quality of the aesthetic resources of the Scenic Highway Corridor;

- Encourage the development and maintenance of park and recreation facilities that contribute to the aesthetic quality of the Scenic Highway;

- Encourage preservation of historical landmarks adjacent to the Scenic Highway; and

- Encourage community civic groups to create programs that increase community interest in the visual assets of the Scenic Highway Corridor and facilitate the implementation of such programs.

Some local jurisdictions in the San Diego region have incorporated elements and/or programs into their general plans to protect and enhance designated scenic highway corridors.

In San Diego County there are four officially designated scenic highway segments and ten additional segments that are eligible for designation (Caltrans 1999). Table 5.3-1 summarizes these segments.
### Table 5.3-1
**List of Caltrans Designated or Eligible Scenic Highways**

**San Diego County**

<table>
<thead>
<tr>
<th>Officially Designated</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR-75</td>
<td>San Diego-Coronado Bay Bridge and the Silver Strand extending from Avenida del Sol in Coronado south to Imperial Beach city limit.</td>
</tr>
<tr>
<td>SR-78</td>
<td>The portion that passes through Anza Borrego State Park.</td>
</tr>
<tr>
<td>SR-163</td>
<td>The portion that passes adjacent to Balboa Park.</td>
</tr>
<tr>
<td>SR-125</td>
<td>The portion from I-8 to SR-94.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eligible for Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-5</td>
<td>From the international boundary near Tijuana to SR-75 (Palm Avenue) at the southern end of San Diego and from San Diego opposite Coronado to SR-74 near San Juan Capistrano.</td>
</tr>
<tr>
<td>I-8</td>
<td>From Sunset Cliffs Boulevard to SR-98 near Coyote Wells (Imperial County).</td>
</tr>
<tr>
<td>SR-52</td>
<td>From I-5 east of La Jolla to SR-67 near Santee.</td>
</tr>
<tr>
<td>SR-75</td>
<td>From I-5 in Palm City to I-5 in San Diego.</td>
</tr>
<tr>
<td>SR-76</td>
<td>From I-5 near Oceanside to SR-79 near Lake Henshaw.</td>
</tr>
<tr>
<td>SR-78</td>
<td>From SR-79 near Santa Ysabel to SR-86 near Julian.</td>
</tr>
<tr>
<td>SR-79</td>
<td>From I-8 near Descanso to SR-78 near Julian and from SR-78 near Santa Ysabel to SR-371 near Aguanga (Riverside County).</td>
</tr>
<tr>
<td>SR-94</td>
<td>From SR-125 near Spring Valley to I-8 west of Jacumba.</td>
</tr>
<tr>
<td>SR-163</td>
<td>From Ash Street to I-8.</td>
</tr>
<tr>
<td>SR-209</td>
<td>From Point Loma to I-5.</td>
</tr>
</tbody>
</table>

Source: Caltrans 1999

Maintenance of the scenic quality of the coastal area is an important component of the California Coastal Commission’s (CCC) permit process. Section 30251 of California Coastal Act (CCA) states that:

“[t]he scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.”

While the Regional Comprehensive Plan (RCP) addresses growth in the entire San Diego region, the areas identified for development density increase would primarily fall within the coastal plain area, and, to a lesser extent, the foothills area of the county.
5.3.2 Methods of Analysis

To determine potential impacts to visual resources due to implementation of the RCP, the policy objectives/actions that would directly or indirectly impact visual resources were analyzed. Five issues within three subject areas were determined to be relevant to visual resources, and these issue areas were analyzed in terms of the significance thresholds presented in Section 5.3.3. The five issues are summarized below:

**Urban Form**

- Preserve the positive aspects and unique sense of place of existing communities, while allowing flexibility for change;
- Avoid and mitigate incompatible land uses, for example, by establishing buffers and transition zones between housing and industrial uses or major transportation corridors that could pose health risks.

**Transportation**

- The transportation goals identified in the RCP include the implementation of MOBILITY 2030 plan. The MOBILITY plan identifies specific roadway improvements within the San Diego region.

**Healthy Environment**

- Preserve and maintain natural areas in urban neighborhoods, such as canyons and creeks, and provide access for the enjoyment of the region’s residents.

5.3.3 Significance Criteria

The RCP would have a potentially significant visual resources impact if the project would:

**Regional**

- Degrade the appearance of, or from, State designated or eligible scenic highways;
Visual Resources

- Block or degrade public views of significant landscape features or forms (e.g., mountains, rivers, ocean, bays, and rock outcroppings).

Localized

- Increase light and glare, which would adversely affect daytime or nighttime public views;

- Introduce development that is incompatible in shape, form, or intensity, with existing development or the established community character that will be visible from public spaces.

5.3.4 Impact Analysis

Would the RCP degrade the appearance of, or from, State designated or eligible scenic highways?

Transportation improvements associated with the RCP would be those identified in the MOBILITY 2030 Network, which were already analyzed in a separate EIR (SANDAG 2003b). The analysis determined that of the fourteen designated or eligible scenic highway segments, six could face a visual quality impact from roadway widening. These segments include portions of I-5, I-8, SR-52, SR-76, SR-94, and SR-125.

Additional development not specifically associated with transportation projects could result in impacts to scenic highways, since development is targeted in areas near existing infrastructure, including highways. Development guidance within local general plans and zoning ordinances may reduce impacts to views from scenic highways. However, the increase in development density and intensity requires, in some areas, buildings with an increased height, which may be visible from a scenic highway. These buildings may “stand out” in bulk and scale compared to the surrounding built environment, thus resulting in a significant impact to the view shed from a scenic highway.

Would the RCP block or degrade public views of significant landscape features or forms (e.g., mountains, rivers, ocean, bays, and rock outcroppings)?

A density increase focused in already developed areas, as recommended in the RCP, will have the additional effect of reducing development in the scenic back country of San Diego as compared to existing development without the RCP. This will reduce or delay
the likelihood of alteration of significant landscape features and/or forms which have not already been developed. However, future development consistent with adopted land use plans would still occur within these areas and could be significant from a visual resource perspective.

Future development will occur within the coastal zone, as well as areas adjacent to Mission Bay and San Diego Bay and near coastal lagoons. Depending on the location and height of future development adjacent to oceans, bays, or lagoons, the potential exists that public views to these scenic resources may be altered. This represents a significant visual resource impact.

In conclusion, future development in the San Diego area has the potential to block or alter views of significant landscape features and forms; however, implementation of the RCP is anticipated to further increase this potential. Therefore, a significant visual resources impact is identified.

Would the RCP increase light and glare, which would adversely affect daytime or nighttime public views?

Future development in the San Diego region, with or without implementation of the RCP, will add to the overall amount of lighting in the region. While necessary for safety and security, excessive, poorly designed, or unshielded lighting can be a nuisance, as well as being detrimental to astronomical observations. Two observatories are located in San Diego County. Palomar Observatory is located in northern portion of the County, and the Mount Laguna Observatory is located in the eastern portion of the County.

Many local jurisdictions have lighting requirements which aid in the preservation of dark-sky conditions which are needed by local observatories. For example, the City of San Marcos requires downward-directed low-pressure sodium vapor lighting, with the exception of specialized streetscape lighting or architectural detail lighting. The City of San Diego requires that outdoor lighting fixtures used to illuminate a property or an architectural feature on private property shall be directed or shaded so that light does not fall onto surrounding properties or create glare hazards within public rights-of-way. Similarly, the County of San Diego requires development projects to conform to San Diego County Code Section 59.101 to ensure that outdoor light fixtures do not emit undesirable light rays into the night sky that will create a detrimental effect on astronomical research. However, even with these lighting requirements in place for many of the regional jurisdictions, future development in the region will add to the incremental
increase of nighttime light pollution. The RCP includes the recommendation for the preparation of an Urban Design Best Management Practices Manual which will provide guidance on numerous land use compatibility issues, including lighting and glare concerns. However, implementation of the RCP is expected to add to the overall increase in light pollution, thus resulting in a significant visual resource impact.

Excessive or poorly shielded lighting can also impact biological resources. Increased density in urban area, particularly adjacent to riparian habitats or along urban canyons could impact sensitive biological resources. These indirect impacts are discussed in Section 5.10, Biological Resources.

In conclusion, future development in the San Diego region will increase the amount of lighting which impacts nighttime views. Implementation of the RCP adds to the overall increase, thus resulting in a significant visual resources impact.

Would the RCP introduce development that is incompatible in shape, form, or intensity, with existing development or the established community character?

With respect to urban design and existing communities, the RCP states the following:

“Good urban design must respond to its particular setting, preserving what is good about a place and transforming what is objectionable. The height of buildings and the width of streets and sidewalks are just two examples of design elements that will vary depending on the locale. Even within communities, design must be sensitive to its context so that the transitions from town center to residential neighborhood are seamless and unobtrusive.”

Increased density in existing neighborhoods may result in buildings that are of a different bulk and scale than existing structures. Depending on the buildings’ location and design, the construction of larger buildings within an already established community could pose a significant visual resource impact. One of the objectives of the RCP is to preserve and maintain natural areas in urban neighborhoods, such as canyons and creeks. Natural areas in the neighborhood serve as an important element in community character. The preservation and maintenance of these areas, as identified in the RCP, is considered to pose a less than significant impact to visual resources.
5.3.5 Mitigation Measures

Future actions to implement specific projects within the study area are subject to project-specific California Environmental Quality Act (CEQA) review for impacts to visual resources. Identified significant impacts to visual resources would be subject to project-specific mitigation. The implementing agencies or local jurisdictions shall be responsible for implementing mitigation measures. Listed below are general mitigation strategies that could be applicable at the project-specific level to reduce impact from future projects. Mitigation measures Vis-1 through Vis-5 are based upon mitigation measures that were presented in the Regional Transportation Plan (RTP) EIR and are carried forward as applicable mitigation for the RCP.

Vis-1  Design projects to minimize contrasts in scale and massing between the project and surrounding natural forms and developments. Avoid large cuts and fills when the visual environment (natural or urban) would be substantially disrupted. Site or design projects to minimize their intrusion into important viewsheds and use contour grading to better match surrounding terrain.

Vis-2  Use natural landscaping to minimize contrasts between the project and surrounding areas. Develop interchanges and transit lines at the grade of the surrounding land to limit view blockage. Contour the edges of major cut and fill slopes to provide a more natural looking finished profile.

Vis-3  Design landscaping to add significant natural elements and visual interest to soften the hard-edged, linear travel experience that would otherwise occur.

Vis-4  Replace and renew landscaping along corridors with road widenings, interchange projects, and related improvements. Plan landscaping in new corridors to respect existing natural and man-made features to complement the dominant landscaping of surrounding areas.

Vis-5  Construct soundwalls of materials whose color and texture complements the surrounding landscape and development. Use color, texture, and alternating facades to “break up” large facades and provide visual interest.
Future development adjacent to the ocean or bays that could potentially impact scenic vistas shall prepare visual simulations to determine what level of view impact the project will have on the scenic vista. Measures to reduce adverse impacts to view corridors shall be implemented. (e.g. reduce bulk and scale).

Incorporate design measures into the Urban Design Best Practices Manual to reduce glare and lighting impacts to observatories. This shall include regulations for shielding, intensities of lighting (number of lights, lumens, and wavelengths).

5.3.6 Summary of Impacts with Significance Conclusions

Future development along identified and eligible scenic highway corridors could include buildings which are visible from the highway, and are out of scale with the surrounding built environment. This represents a significant visual resource impact that would be reduced to below a level of significance through implementation of mitigation measures Vis-1 through Vis-5.

Depending on the location and height of future development adjacent to oceans or bays, the potential exists that public views to these scenic resources may be substantially altered. This represents a significant visual resource impact which would be mitigated to below a level of significance through implementation of mitigation measures Vis-1 and Vis-6.

Future development in the region, over the lifetime of the RCP, will result in a regional increase in the amount of light pollution. This represents a significant visual resource impact which would be mitigated to below a level of significance through implementation of mitigation measure Vis-7.

Increased density in existing neighborhoods may result in buildings that are of a different bulk and scale than existing structures. Depending on the buildings’ location and design, the construction of larger buildings within an already established community poses a significant visual resource impact which would be mitigated to below a level of significance through implementation of mitigation measure Vis-1.
5.4 TRANSPORTATION/CIRCULATION

5.4.1 Existing Conditions

Existing Regional Transportation System

The transportation system that currently serves the San Diego region provides for the movement of people and goods through an intermodal network of highways and roads, public transit, freight railroads, airports, seaports, and intermodal facilities. This transportation system provides the means for residents, employees, visitors, and goods to travel within the region. The transportation system supports the region's economic needs as well as the demand for personal travel.

Level of Service (LOS) is one standard by which the operating conditions of a given roadway segment or intersection are evaluated. Level of service is defined on a scale of A to F, where:

- LOS A represents free-flowing traffic conditions with no restrictions on maneuvering or operating speeds, low traffic volumes, and high speeds;
- LOS B represents stable flow, more restrictions, operating speeds beginning to be affected by traffic volumes;
- LOS C represents stable flow, more restrictions, speed and maneuverability more closely controlled by higher traffic volumes;
- LOS D represents conditions approaching unstable flow, traffic volumes profoundly affecting arterials;
- LOS E represents unstable flow, and some stoppages; and
- LOS F represents forced flow, many stoppages, and low operating speeds.

Figure 5.4-1 shows the peak hour LOS on the regional freeways and arterials. Table 5.4-1 shows the existing peak hour LOS on the regional freeways.
<table>
<thead>
<tr>
<th>Interstate Segment</th>
<th>Existing LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interstate 5</strong></td>
<td></td>
</tr>
<tr>
<td>Orange to SR-76</td>
<td>LOS A-C</td>
</tr>
<tr>
<td>SR-76 to SR-78</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-78 to I-805</td>
<td>LOS F</td>
</tr>
<tr>
<td>I-805 to SR-52</td>
<td>LOS D</td>
</tr>
<tr>
<td>SR-52 to I-8</td>
<td>LOS F</td>
</tr>
<tr>
<td>I-8 to SR-94</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-94 to SR-54</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-54 to Border</td>
<td>LOS D</td>
</tr>
<tr>
<td><strong>Interstate 805</strong></td>
<td></td>
</tr>
<tr>
<td>I-5 to SR-52</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-52 to I-8</td>
<td>LOS F</td>
</tr>
<tr>
<td>I-8 to SR-94</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-94 to SR-54</td>
<td>LOS E</td>
</tr>
<tr>
<td>SR-54 to Border</td>
<td>LOS F</td>
</tr>
<tr>
<td><strong>Interstate 15</strong></td>
<td></td>
</tr>
<tr>
<td>SR-76 to SR-78</td>
<td>LOS A-C</td>
</tr>
<tr>
<td>SR-78 to SR-56</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-56 to SR-52</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-52 to I-8</td>
<td>LOS E</td>
</tr>
<tr>
<td>I-8 to I-805</td>
<td>LOS E</td>
</tr>
<tr>
<td>I-805 to I-94</td>
<td>LOS D</td>
</tr>
<tr>
<td>I-94 to I-5</td>
<td>LOS F</td>
</tr>
<tr>
<td><strong>Interstate 8</strong></td>
<td></td>
</tr>
<tr>
<td>I-5 to SR-163</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-163 to I-15</td>
<td>LOS F</td>
</tr>
<tr>
<td>I-15 to SR-125</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-125 to 67</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-67 to SR-54</td>
<td>LOS D</td>
</tr>
<tr>
<td>SR-54 to Imperial</td>
<td>LOS D</td>
</tr>
<tr>
<td><strong>State Route 163</strong></td>
<td></td>
</tr>
<tr>
<td>I-15 to SR-52</td>
<td>LOS E</td>
</tr>
<tr>
<td>SR-52 to I-8</td>
<td>LOS E</td>
</tr>
<tr>
<td>I-8 to I-5</td>
<td>LOS F</td>
</tr>
<tr>
<td><strong>State Route 52</strong></td>
<td></td>
</tr>
<tr>
<td>I-5 to I-805</td>
<td>LOS F</td>
</tr>
<tr>
<td>I-805 to I-15</td>
<td>LOS D</td>
</tr>
<tr>
<td>I-15 to SR-125</td>
<td>LOS F</td>
</tr>
<tr>
<td><strong>State Route 54</strong></td>
<td></td>
</tr>
<tr>
<td>I-8 to SR-94</td>
<td>LOS E</td>
</tr>
<tr>
<td>SR-94 to SR-125</td>
<td>No Data</td>
</tr>
<tr>
<td>SR-125 to I-805</td>
<td>LOS D</td>
</tr>
<tr>
<td>I-805 to I-5</td>
<td>LOS D</td>
</tr>
<tr>
<td><strong>State Route 76</strong></td>
<td></td>
</tr>
<tr>
<td>I-5 to I-15</td>
<td>LOS F</td>
</tr>
</tbody>
</table>
Public transportation services are provided both for trips within the region and for trips between San Diego and adjacent areas. The current transit network includes approximately 92,000 transit miles for local public bus operations and light rail passenger service (Figure 5.4-2). Amtrak and private bus operators provide most interregional ground passenger travel. In addition, Metrolink provides interregional commuter rail service to Orange County and the Los Angeles basin.

Within the region, there are eight transit operators providing fixed-route transit services. These include the "Coaster" commuter rail service operating between San Diego and Oceanside, the San Diego Trolley, and several fixed-route bus systems. Ferry service is also available between San Diego and Coronado. In addition, there are demand-responsive transit services that provide transit service in sparsely traveled areas and for travelers with special needs that are not well served by fixed-route service.

**Intermodal Service**

Goods movement in the San Diego region is provided via truck travel on the region's roadway system as well as by air, rail, and seaport. Lindbergh Field serves as the primary airport for the movement of the goods transported by air. Freight rail service within the San Diego region is provided via the Burlington Northern Santa Fe (BNSF) and San Diego-Imperial Valley (SDIV) railroads with Carrizo Gorge Railway operating between Tijuana and Tecate, Baja California. The region's seaports at Tenth Avenue in
San Diego and 24th Street in National City are located on San Diego Bay and are operated by the San Diego Unified Port District.

In fiscal year 2001, the volume of maritime cargo increased by 4 percent over the previous year. Currently, approximately 2.5 million tons of cargo is handled annually. Inbound cargoes include refrigerated commodities, fertilizer, cement, and forest products such as newsprint. Main export cargoes include refrigerated cargo, and bulk commodities such as soda ash, sodium sulfate, and borax.

The San Diego & Arizona Eastern (SD&AE) Railway connects San Diego to Tijuana and Tecate in Baja California. The SDIV Railroad provides freight service between San Diego and San Ysidro. In 2001, Carrizo Gorge Railway took over operations between Tijuana and Tecate. Main commodities moved include liquefied petroleum gas, lumber, beverages, paper, grain, and sand.

The extension of existing freight service between San Diego and Tecate to the Imperial Valley is being considered by rehabilitating the 70-mile Desert Line portion of the SD&AE, which has been out of service since 1983. In May 2002, Metropolitan Transit Development Board (MTDB) granted a contract to Carrizo Gorge Railway to repair, operate, and maintain the Desert Line. The connection with the Union Pacific Railroad in Imperial Valley would link San Diego and its port to the rest of the United States and Mexico, and vastly improve the region’s market opportunities.

**Interregional Commuting**

San Diego roadways carry commuters from Northern Baja and Southwestern Riverside County to employment centers in San Diego County. Approximately 30,000 Western Riverside residents commute to San Diego County for work, and 40,000 workers cross the border from Mexico for San Diego region jobs (SANDAG 2003a).

**Regulatory Framework**

**Federal Regulations**

The Transportation Equity Act for the 21st Century (TEA-21), signed into law in 1998, provides the regulatory framework at the federal level for transportation planning in urban areas. Under TEA-21, the U.S. Department of Transportation (USDOT) requires that metropolitan planning organizations, like SANDAG, prepare long-range transportation plans. In federally designated air quality nonattainment and maintenance areas, the long-range transportation plan is to be updated every three years. The
Figure 5.4-1
CONGESTION MANAGEMENT SYSTEM PROGRAM (CMP)
2002 Update
2001 Peak Hour Level of Service
Freeways   Arterials
LOS A-C   LOS D   LOS E   LOS F   NO DATA

SAN DIEGO REGION
MAP AREA

MILES
0 3 6
KILOMETERS
0 3.18 9.6

SAN DIEGO
COUNTY

IMPERIAL BEACH

MEXICO
UNITED STATES
Figure 5.4-2
2030 TRANSIT NETWORK
Regional and Corridor Services
April 2003

Red: All Day Corridor Service
Yellow: All Day Regional Service
Orange: Peak Period Only Regional Service

MILES
0 3 6 9
0 4.83 9.6

KILOMETERS

SANDAG

Vista
San Marcos
Escondido
Poway
La Mesa
Lemon Grove
La Quinta
National City
San Ysidro
Chula Vista
Imperial Beach
Tijuana, B.C.
recently adopted MOBILITY 2030 (SANDAG 2003d) replaced the 2020 RTP as the San Diego region's long-range transportation plan.

Key federal requirements for long-range transportation plans include the following:

- Plans must be developed through an open and inclusive process that ensures public input and seeks out and considers the needs of those traditionally underserved by existing transportation systems.

- Plans must be developed for a period of not less than 20 years into the future and must reflect the most recent assumptions for population, travel, land use, congestion, employment, and economic activity.

- Plans must have a financially constrained element and transportation revenue assumptions must be reasonable.

- Plans must conform to the applicable State Implementation Plan (SIP) for air quality.

- Plans must consider seven planning factors and strategies in the local context: economic vitality, safety and security of the transportation system, accessibility/mobility, environment and quality of life, connectivity of the transportation system, efficiency, and preservation of the existing transportation system.

**State Regulations**

State regulations for the preparation of long-range transportation plans are similar to federal regulations. Key additional requirements of the state include the following:

- Plans must comply with the California Environmental Quality Act (CEQA).

- The first four years of the plan must be consistent with the four-year State Transportation Improvement Program (STIP), as incorporated into the Regional Transportation Improvement Program (RTIP).

- Program level performance measures must establish objective criteria that reflect the goals and objectives of the plan used in the evaluation of the plan.

- Plans must include a policy element, an action element, and a financial element.
Existing Transportation Plans and Programs

Regional Transportation Plan (RTP)

In March 2003, the SANDAG Board of Directors approved MOBILITY 2030. MOBILITY 2030 is the transportation component of the RCP. The MOBILITY 2030 was developed around four main components: land use, system development, system management, and demand management. The plan includes new and better connections to more efficiently move people on buses, trolleys, trains, and cars. Key components in MOBILITY 2030 and other planning efforts include the Regional Transit Vision (RTV), the Short Range Transit Plan (SRTP), the Congestion Management Program (CMP), and the Regional Transportation Improvement Program (RTIP), which are discussed below.

Regional Transit Vision (RTV)

The goal of the RTV is to make public transit competitive with solo driving during peak periods. Local jurisdictions play a significant role in creating communities that support the RTV. Two key concepts of the RTV are:

1) Integrating transit into the more populated urban communities and

2) Surrounding public transit with supportive land uses.

The RTV also promotes priority measures that will allow transit to bypass congested roadways and intersections.

Short Range Transit Plan (SRTP)

The SRTP strategy is to balance the short-term needs associated with managing existing transit services, while implementing the long-term regional transit vision identified in MOBILITY 2030. The SRTP provides a framework for transit system development over the next five years. SANDAG is responsible for the transit planning, programming, and construction responsibilities for the region.

Congestion Management Plan (CMP)

The CMP focuses on two main activities:

1) Addressing existing congestion through regular roadway monitoring and determining ways to streamline traffic flow, and
2) Identifying and mitigating future congestion resulting from new development.

SANDAG, Caltrans, and local jurisdictions implement the CMP through two means. The first is through the adoption of deficiency plans. The plans are developed through the cooperation of SANDAG, Caltrans, and the local jurisdictions. These plans identify the cause of congestion, potential solutions, and establish funding mechanisms for improvements that help manage congestion. The second way is through enhanced CEQA review. Local jurisdictions must conduct enhanced CEQA review for large development projects, a process which identified potential congestion problems on a regional level and finds ways to minimize these problems.

**Regional Transportation Improvement Program (RTIP)**

The RTIP is a five-year improvement program of major regional transit, highway, arterial, and non-motorized projects being developed in the San Diego region from 2003 to 2007. Funding for the transportation projects in the RTIP come from federal, state, and local revenue sources, including TransNet, the local transportation sales tax program.

**Local Circulation Elements**

The general plan of each jurisdiction includes a circulation element. The circulation element is designed to meet the needs of anticipated development as laid out by each jurisdiction’s general plan. These roadway networks serve the needs of each jurisdiction and range from neighborhood road to, major arterials with thousands of cars each day.

**5.4.2 Method of Analysis**

To determine potential impacts to transportation and circulation due to implementation of the RCP, the policy objectives that would directly or indirectly impact the transportation network were analyzed. Twelve issues were determined to be relevant to transportation, and these issue areas were analyzed in terms of the significance thresholds presented in Section 5.4.3. The 12 issue areas are:

**Transportation**

- Implement the 2030 MOBILITY Network in an efficient and cost-effective manner.
Transportation/Circulation

- Provide a wide range of convenient, efficient, and safe travel choices.
- Reduce traffic congestion on freeways, highways, and arterials.
- Develop a network of fast, convenient, high-quality transit services that are competitive with the cost and time to drive alone during peak hours.
- Improve service levels and the quality of transit service.
- Create more walkable and bicycle-friendly communities consistent with good urban design concepts.
- Give priority to regional roadway and transit investments in Smart Growth Opportunity Areas while recognizing the need for transportation improvements elsewhere in the region.
- Provide improved access to goods and movement centers and intermodal facilities to promote economic prosperity.
- Improve the connectivity of different transportation modes where it will result in better overall mobility.
- Ensure adequate funding to cover the capital, operational, and maintenance costs of the regional transportation system.
- Provide equitable and accessible transportation services for all residents, regardless of income, age, or ability.
- Ensure that the benefits and potential burdens of transportation projects are equitable.

5.4.3 Significance Criteria

The RCP would have a significant transportation impact if the project would:

Regional Comprehensive Plan PEIR 5.4-12
Regional

- Increase the amount of daily vehicle miles traveled at a level of service E or F from the existing condition;

- Change air traffic patterns or otherwise increase hazards in the vicinity of any local, regional, public or private airport.

Localized

- Generate traffic on local roadways, which degrades existing LOS D or better roadway and intersection conditions to LOS E or F in relation to the capacity of the local street system.

- Conflict with adopted circulation elements of local jurisdictions.

5.4.4. Impact Analysis

Would the RCP result in an increase in the amount of daily vehicle miles traveled at level of service E or F?

Figure 5.4-3 shows future LOS for the Year 2030 with implementation of the MOBILITY Network. Table 5.4-2 compares the roadway operations under Year 2030 LOS with the LOS depicted in Figure 5.4-1. As shown in Table 5.4-2 the portion of Interstate 5 between SR-78 and I-805 and the portion between SR-52 and I-8 would have an improved LOS with implementation of the MOBILITY Network. Additionally, the I-15 between SR-78 and I-8 would also have an improved LOS condition. Interstate 8 between I-5 and SR-125 currently has a worst case LOS F condition, and this condition is expected to remain in the year 2030 with implementation of the RCP.

Without implementation of the RCP, the regional roadway system is expected to be even more degraded because interregional commuting will continue.
### Table 5.4-2
Existing Condition vs. 2030 Roadway Operations

<table>
<thead>
<tr>
<th>Street Segment</th>
<th>Existing Levels of Service (1)</th>
<th>2030 With Project Level of Service (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interstate 5</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orange to SR-76</td>
<td>LOS A-C</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>SR-76 to SR-78</td>
<td>LOS F</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>SR-78 to I-805</td>
<td>LOS F</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>I-805 to SR-52</td>
<td>LOS D</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>SR-52 to I-8</td>
<td>LOS F</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>I-8 to SR-94</td>
<td>LOS F</td>
<td>LOS A-E*</td>
</tr>
<tr>
<td>SR-94 to SR-54</td>
<td>LOS F</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-54 to Border</td>
<td>LOS D</td>
<td>LOS A-E</td>
</tr>
<tr>
<td><strong>Interstate 805</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-5 to SR-52</td>
<td>LOS F</td>
<td>LOS A-E*</td>
</tr>
<tr>
<td>SR-52 to I-8</td>
<td>LOS F</td>
<td>LOS A-E*</td>
</tr>
<tr>
<td>I-8 to SR-94</td>
<td>LOS F</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>SR-94 to SR-54</td>
<td>LOS E</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>SR-54 to Border</td>
<td>LOS F</td>
<td>LOS A-E</td>
</tr>
<tr>
<td><strong>Interstate 15</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SR-76 to SR-78</td>
<td>LOS A-C</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>SR-78 to SR-56</td>
<td>LOS F</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>SR-56 to SR-52</td>
<td>LOS F</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>SR-52 to I-8</td>
<td>LOS E</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>I-8 to I-805</td>
<td>LOS E</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>I-805 to I-94</td>
<td>LOS D</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>I-94 to I-5</td>
<td>LOS F</td>
<td>LOS A-E</td>
</tr>
<tr>
<td><strong>Interstate 8</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-5 to SR-163</td>
<td>LOS F</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-163 to I-15</td>
<td>LOS F</td>
<td>LOS F</td>
</tr>
<tr>
<td>I-15 to SR-125</td>
<td>LOS F</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-125 to 67</td>
<td>LOS F</td>
<td>LOS A-E*</td>
</tr>
<tr>
<td>SR-67 to SR-54</td>
<td>LOS D</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>SR-54 to Imperial</td>
<td>LOS D</td>
<td>LOS A-E</td>
</tr>
<tr>
<td><strong>State Route 163</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-15 to SR-52</td>
<td>LOS E</td>
<td>LOS F</td>
</tr>
<tr>
<td>SR-52 to I-8</td>
<td>LOS E</td>
<td>LOS A-E*</td>
</tr>
<tr>
<td>I-8 to I-5</td>
<td>LOS F</td>
<td>LOS F</td>
</tr>
<tr>
<td><strong>State Route 52</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-5 to I-805</td>
<td>LOS F</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>I-805 to I-15</td>
<td>LOS D</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>I-15 to SR-125</td>
<td>LOS F</td>
<td>LOS A-E*</td>
</tr>
<tr>
<td><strong>State Route 54</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-8 to SR-94</td>
<td>LOS E</td>
<td>LOS A-E</td>
</tr>
<tr>
<td>SR-94 to SR-125</td>
<td>No Data</td>
<td>No Data</td>
</tr>
<tr>
<td>SR-125 to I-805</td>
<td>LOS D</td>
<td>LOS A-E</td>
</tr>
</tbody>
</table>
Another way of looking at future roadway conditions is to compare the travel time between different portions of the County today, and in the future conditions. Table 5.4-3 identifies the average travel time in selected corridors, the percent of work/higher education trips accessible in 30 minutes by automobile or transit, and the amount of congested vehicle miles of travel. This information is shown for Year 2000 with the 2000 transportation network and for the year 2030 with the MOBILITY 2030 transportation network and the incorporation of smart growth principles, such as those included in the RCP.
Table 5.4-3 shows that in many cases, the average travel times decrease with the implementation of the MOBILITY 2030 network and smart growth principles. For automobile trips, the average travel time drops on the following segments: Oceanside-San Diego, Chula Vista-Sorrento Valley, and Mid City San Diego-Sorrento Valley. For public transit trips, all travel times will decrease on the analyzed segments, with the exception of the San Ysidro-Downtown segment, which is not expected to change. Finally, for carpool trips, all of the segments will have a decrease with the exception of the Escondido-Carlsbad segment, which will have a two minute increase. Table 5.4-3 shows that transit and HOV improvements associated with MOBILITY 2030, and the incorporation of smart growth elements, greatly increases the efficiency of transit.

Table 5.4-3
2000 vs. 2030 Regional Travel Times

<table>
<thead>
<tr>
<th>Goals and Performance Measures</th>
<th>2000 Population &amp; 2000 Network</th>
<th>2030 with RCP(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average travel time (peak periods) by mode for selected corridors (in minutes).</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Oceanside – Downtown San Diego</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average travel time by automobile</td>
<td>73</td>
<td>66</td>
</tr>
<tr>
<td>Average travel time by transit</td>
<td>90</td>
<td>78</td>
</tr>
<tr>
<td>Average travel time by carpool</td>
<td>66</td>
<td>50</td>
</tr>
<tr>
<td>2. Escondido – Kearny Mesa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average travel time by automobile</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td>Average travel time by transit</td>
<td>115</td>
<td>52</td>
</tr>
<tr>
<td>Average travel time by carpool</td>
<td>33</td>
<td>31</td>
</tr>
<tr>
<td>3. Escondido – Carlsbad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average travel time by automobile</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td>Average travel time by transit</td>
<td>74</td>
<td>48</td>
</tr>
<tr>
<td>Average travel time by carpool</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>4. Chula Vista – Sorrento Valley</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average travel time by automobile</td>
<td>48</td>
<td>40</td>
</tr>
<tr>
<td>Average travel time by transit</td>
<td>103</td>
<td>64</td>
</tr>
<tr>
<td>Average travel time by carpool</td>
<td>45</td>
<td>33</td>
</tr>
<tr>
<td>5. Mid City San Diego – Sorrento Valley</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average travel time by automobile</td>
<td>33</td>
<td>30</td>
</tr>
<tr>
<td>Average travel time by transit</td>
<td>84</td>
<td>61</td>
</tr>
<tr>
<td>Average travel time by carpool</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>6. San Ysidro – Downtown San Diego</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average travel time by automobile</td>
<td>31</td>
<td>32</td>
</tr>
<tr>
<td>Average travel time by transit</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Average travel time by carpool</td>
<td>30</td>
<td>28</td>
</tr>
<tr>
<td>7. El Cajon – Downtown San Diego</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
It is important to note that there may be interim adverse conditions on some of the regional roadways that will ultimately improve from LOS F to LOS E. Implementation of the RCP does not result in an “instant fix.” The plan will modify the land use and transportation networks over the next 26 years. Some portions of the regional roadways network may get worse before they get better.

**Would the RCP change air traffic patterns or otherwise increase hazards in the vicinity of any local, regional, public or private airport?**

Implementation of the RCP would not result in changes to air traffic patterns or otherwise increase hazards in the vicinity of any local, regional, public or private airport. Some portions of the Smart Growth Opportunity Areas may be located within the vicinity of regional airports; however, any development or redevelopment projects in these areas would be required to undergo review pursuant to CEQA, at which time airport safety issues would be addressed. In conclusion, implementation of the RCP will not result in a significant change to air traffic patterns or otherwise increase hazards in the vicinity of any airports.

**Would the RCP generate traffic on local roadways, which degrades existing LOS D or better roadway and intersection conditions to LOS E or F in relation to the capacity of the local street system?**

Future individual development projects will be subject to more detailed environmental impact analysis, including the consideration of traffic impacts. Implementation of the RCP and the MOBILITY Network will generally improve the regional roadway network (improving current LOS F segments to LOS E) compared to the condition expected to occur if the RCP is not implemented. It should still be recognized that individual development projects would have significant, and in some cases, unmitigated transportation impacts on local streets and transportation systems. Increasing intensities along the major transportation corridors (Figure 5.4-1) would be expected to create

---

**Goals and Performance Measures**

<table>
<thead>
<tr>
<th>Goals and Performance Measures</th>
<th>2000 Population &amp; 2000 Network</th>
<th>2030 with RCP(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average travel time by automobile</td>
<td>35</td>
<td>36</td>
</tr>
<tr>
<td>Average travel time by transit</td>
<td>83</td>
<td>79</td>
</tr>
<tr>
<td>Average travel time by carpool</td>
<td>33</td>
<td>28</td>
</tr>
</tbody>
</table>

**Note:** (1) Represents the MOBILITY 2030 transportation network with smart growth elements.

**Source:** SANDAG, 2003d.
localized congestion that may reduce LOS to E or F. Although public transit opportunities will be provided, individual preferences will likely result in an increase of local congested conditions, thus resulting in significant localized impacts to roadway segments and intersections.

**Would the RCP result in a conflict with the adopted circulation elements of local jurisdictions?**

Each of the 18 cities and the County of San Diego has a circulation element as a component of their general plan. These elements identify the buildout of the circulation network and also identify minimum LOS standards for roadways.

Implementation of the RCP would result in significant impacts to the capacity of local street systems. These impacts can also represent a conflict with local circulation elements. In the event that the local transportation network impacts are so severe, roadway and intersection expansions beyond the maximum buildout in local circulation plans may be required. Any expansion beyond the buildout identified in the local plans represents a conflict, and a significant impact.

### 5.4.5 Mitigation Measures

Future development projects will be required to address localized traffic impacts as part of the environmental review process. Mitigation for these local impacts will be in conformance with the adopted performance measures of the lead jurisdiction. Mitigation measures can include congestion management strategies identified in SANDAG’s Congestion Management Strategies (CMS) Toolbox as summarized in Table 5.4-4.

<table>
<thead>
<tr>
<th><strong>Transit</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Light Rail/Commuter Rail/Bus Rapid Transit (BRT)</td>
</tr>
<tr>
<td>Transit System/Service Expansion</td>
</tr>
<tr>
<td>- Local</td>
</tr>
<tr>
<td>- Express</td>
</tr>
<tr>
<td>System/Service Operational Improvements</td>
</tr>
<tr>
<td>- Increased Service Frequency</td>
</tr>
<tr>
<td>- Decreased Travel Time</td>
</tr>
<tr>
<td>Subscription Services</td>
</tr>
<tr>
<td>Car Shipping</td>
</tr>
<tr>
<td>Station Amenities &amp; Public Transit Facility Improvements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Land Use</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Development Along Transit Corridors</td>
</tr>
</tbody>
</table>

**Table 5.4-4**

**Congestion Management Strategies**
### Transportation/Circulation

<table>
<thead>
<tr>
<th>Development Around Transit Nodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed-use Developments</td>
</tr>
<tr>
<td>Locally Serving Commercial</td>
</tr>
<tr>
<td>Interconnected Street Networks &amp; Pedestrian Facilities</td>
</tr>
</tbody>
</table>

**Travel Demand Management (TDM)**

- On-Site Child Care/Cafeteria/Deli/Gym/Fitness Facilities
- Transit/Alternative Modes Marketing
- Trip Reduction Programs & Ordinances
- Transportation Management Associations
- Bicycle/Pedestrian Allowances
- Distributed & Remote Work Centers/Video Conferencing
- Alternative Work Schedules/Telework/Work-at-Home
- Carpool/Vanpool/Transit Programs
- Carpool/Vanpool Subsidies
- Parking Restrictions/Reduced Minimums and Maximums/Area-Wide Caps
- Parking Charges & Carpool/Vanpool Preferential Parking
- Transit Pass Subsidies
- Guaranteed Ride Home Program

**Traffic Systems Management (TSM)**

- Improved Traffic Control Devices
  - Traffic Signal Coordination
  - Adaptive Signal Control
  - Signal Improvements
- Local Traffic Management (Monitoring and Control) & Arterial Monitoring
- Special Event Management
- Incident Management
- Commercial Vehicle Restrictions
- Advanced Traveler Information
- Value/Congestion Pricing
- Peak Period On-Street Parking Restrictions

**Capital**

- Park & Ride Lots (Transit)
- HOV/HOT Lanes/Access
- Roadway Widening
- Intersection Improvements
- Bicycle Facilities
- Pedestrian Facilities
- Bus Priority Treatments on Surface Streets
- Grade Separation/Urban Interchange

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**Trans-2** Local jurisdictions shall adopt circulation element amendments to eliminate inconsistencies related to future roadway and intersection improvements associated with the RCP.
5.4.6 Summary of Impacts with Significance Conclusions

Overall, at the program level, the implementation of the RCP is considered to reduce some of the future impacts on the regional transportation system when compared to the conditions that would occur without implementation of the RCP. Many freeway segments operating at LOS F are anticipated to operate at LOS E with implementation of the MOBILITY Network.

Implementation of the RCP will have a less than significant impact on regional airports. Future development projects within the vicinity of airports will be subject to review by the Airport Land Use Commission.

Implementation of the RCP would have significant transportation and circulation impacts on regional transportation systems and local streets due to increased density which are only partially mitigated by Trans-1. Some localized circulation networks will not be able to be improved to less than significant levels.

Implementation of the RCP could result in conflicts with the adopted circulation elements of local jurisdictions. This represents a significant impact. Implementation of mitigation measures Trans-2 will reduce this impact to below a level of significance.
5.5 AIR QUALITY

5.5.1 Existing Conditions

Background

Automobiles and other mobile sources emit 53 percent of the harmful pollutants that degrade the air quality of the San Diego region (APCD 2004). Industrial sources emit 27 percent of the region’s harmful pollutants, and natural sources (e.g., sea salt, wildfires, biogenic organic emissions, and wind erosion of undisturbed soil) emit 20 percent of the region’s harmful pollutants. The effects of the Regional Comprehensive Plan (RCP) will be predominantly associated with the changes in land use patterns and associated with housing that will have the potential to result in a physical impact. Transportation improvements have already been addressed in the recently adopted EIR prepared for the Regional Transportation Plan (RTP) MOBILITY 2030 (SANDAG 2003b). The RCP does not encourage changes in industrial land uses or intensities. Thus, the impacts to be addressed in this PEIR include the effects of commuting to and from work and home. Therefore, the majority of the following discussion of air quality in the San Diego region as it relates to implementation of the RCP will focus on emissions of automobiles and other mobile sources of harmful pollutants.

Significant progress has been realized in the region’s air quality since the early 1970s when San Diego Association of Governments (SANDAG) and the San Diego Air Pollution Control District (APCD) began working together to reduce regional emissions. Control of motor vehicle emissions, a primary contributor to regional air pollution, has been a focus of federal and state air quality legislation. Consequently, legislation now includes requirements that transportation officials make a commitment to programs and projects that will help achieve national air quality goals. Recent attention has also been directed towards measures that reduce emissions from indirect sources of air pollution. The APCD is responsible for stationary source tactics to reduce air pollution resulting from industry.

SANDAG is responsible for developing a “Transportation Control Measures (TCM) Plan” to help achieve air quality objectives for the region. The plan provides actions to reduce air pollution such as increasing efficiency of the transportation system, motor vehicles, and encouraging bicycling and other forms of transportation. The APCD adopts the TCM Plan as part of the Regional Air Quality Strategy (RAQS). The RAQS is updated on a triennial basis and outlines measures for achieving state and national air quality standards.
Air Quality

Area Description

The San Diego Air Basin (SDAB) lies in the southwest corner of California and comprises the entire San Diego region. However, population and emissions are concentrated mainly in the western portion of the county. The air basin covers 4,260 square miles, includes about 8 percent of the state’s population, and produces about 7 percent of the state’s criteria pollutant emissions.

Topography and Climate

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east. Much of the topography in between consists of mesa tops intersected by canyon areas. The topography in the San Diego region, along with local meteorology, influences the dispersal and movement of pollutants in the basin. The mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers, which will be discussed in the next section.

The weather of the San Diego region, as in most of southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters. The average temperature ranges from the mid-40s to the high-90s. Most of the county’s precipitation falls from November to April, with infrequent (approximately 10 percent) precipitation during the summer. The average seasonal precipitation along the coast is approximately 10 inches; the amount increases with elevation as moist air is lifted over the mountains (University of California 1970).

The interaction of ocean, land, and the Pacific High Pressure Zone maintains clear skies for much of the year and drives the prevailing winds. Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

In conjunction with the two characteristic onshore/offshore wind patterns, there are two types of temperature inversions (reversals of the normal decrease of temperature with height) which occur within the region that affect atmospheric dispersive capability and that act to degrade local air quality. In the summer, an inversion at about 1,100 to 2,500 feet is formed over the entire coastal plain when the warm air mass over land is undercut by a shallow layer of cool marine air flowing offshore. The prevailing sunny days in this region further exacerbate the smog problem by inducing additional adverse photochemical reactions. During the winter, a nightly shallow inversion layer (usually at about 800 feet) forms.
between the cooled air at the ground and the warmer air above, which can trap vehicular pollutants. The days of highest carbon monoxide concentrations occur during the winter months.

The predominant onshore/offshore wind pattern is sometimes interrupted by so-called Santa Ana conditions, when high pressure over the Nevada-Utah area overcomes the prevailing westerlies, sending strong, steady, hot, and dry winds from the east over the mountains and out to sea. Strong Santa Anas tend to blow pollutants out over the ocean, producing clear days. However, at the onset or breakdown of these conditions or if the Santa Ana is weak, prevailing northwesterly winds reassert themselves and send a cloud of contamination from the Los Angeles Basin ashore in the SDAB.

**Regional Air Quality**

Growth rates in the SDAB during the last 20 years were among the highest in the state’s urban areas in San Diego. The population increased by 54 percent, from more than 1.9 million in 1982 to over 2.9 million in 2001. During this same period, the number of vehicle miles traveled each day increased over 120 percent from about 34 million miles per day in 1982 to nearly 75 million miles per day in 2001 (CARB 2003a). As in other parts of California, overall air quality in the SDAB has improved, despite high growth rates, in part due to the benefits of cleaner technologies.

Emissions of oxides of nitrogen (NO\(_x\)), reactive organic gases (ROG), particulate matter under 10 microns (PM\(_{10}\)), and carbon monoxide (CO) in the SDAB have been following the statewide trends since 1975. These trends are largely due to motor vehicle controls and reductions in evaporative emissions. Mobile sources (both on-road and other) are by far the largest contributors to NO\(_x\), ROG, and CO emissions in the SDAB. The majority of the PM\(_{10}\) emissions are from areawide sources (CARB 2003a). Air quality in the SDAB is impacted not only by local emissions, but also by pollutants transported from other areas, in particular, ozone and ozone precursor emissions transported from the South Coast Air Basin. Although the impact of transport is particularly important on days with high ozone concentrations, transported pollutants and emissions cannot be blamed entirely for the ozone problem in the San Diego area. Studies show that emissions from the SDAB are sufficient, on their own, to cause violations.

Improvements from the transportation sector are primarily the result of advances in technology. The elimination of lead in gasoline, lower fuel volatility, and the advancement of emissions control systems have resulted in major reductions in emissions of lead, reactive
hydrocarbons, CO, and NOx. The cleaner-burning gasoline sold in California starting in the spring of 1996 has reduced hydrocarbons by 17 percent and carbon monoxide by 11 percent relative to 1994 “conventional” gasoline. The enhanced vehicle inspection and maintenance program (Smog Check II) implemented in 1998 provides additional emission reductions.

Progress has been made in the region of attaining federal and state air quality standards. Federal and state standards have been met for lead, nitrogen dioxide (NO2), sulfur dioxide (SO2), and CO, and federal standards are being met for inhalable particulates. In addition, SDAB was recently determined to be in attainment for the federal 1-hour ozone standards by EPA.

Air quality is commonly expressed as the number of days that air pollution levels exceed state standards set by the CARB or federal standards set by the EPA (Table 5.5-1). The concentrations of pollutants within the SDAB are measured at the 11 monitoring stations maintained by the APCD and the CARB. The locations of monitoring stations in the San Diego region are shown in Figure 5.5-1. The Union Street station only monitors CO and Del Mar station only monitors ozone.

Air quality at a particular location is a function of the type and amount of pollutants being emitted into the air locally and throughout the basin and of the dispersal rates of pollutants within the region. The major factors affecting pollutant dispersion are wind speed and direction, inversion layers (which affect vertical dispersion), and the local topography.

**Carbon Monoxide**

Improvements from the transportation sector, primarily resulting from advances in technology such as emissions control systems, have resulted in major reductions in CO emissions in the SDAB, following the statewide trend of declining from 1975 to 2010 (Table 5.5-2). Cleaner-burning gasoline sold in California starting in the spring of 1996 has reduced CO emissions by an estimated 11 percent relative to the 1994 “conventional” gasoline. The enhanced vehicle inspection and maintenance program (Smog Check II) implemented in 1998 provides additional emission reductions. Consequently, after three years of no violations, the SDAB was reclassified as an attainment area for carbon monoxide. The EPA approved the Carbon Monoxide Maintenance Plan 1998.
### Table 5.5-1
Ambient Air Quality Standards

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Time</th>
<th>California Standards&lt;sup&gt;(1)&lt;/sup&gt;</th>
<th>Federal Standards&lt;sup&gt;(2)&lt;/sup&gt;</th>
<th>Method&lt;sup&gt;(4)&lt;/sup&gt;</th>
<th>Primary&lt;sup&gt;(3)&lt;/sup&gt;</th>
<th>Secondary&lt;sup&gt;(6)&lt;/sup&gt;</th>
<th>Method&lt;sup&gt;(7)&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone (O&lt;sub&gt;3&lt;/sub&gt;)</td>
<td>1-hour</td>
<td>0.09 ppm (180 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>Ultraviolet Photometry</td>
<td>0.12 ppm (235 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>--</td>
<td>Ultraviolet Photometry</td>
</tr>
<tr>
<td></td>
<td>8-Hour</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.08 ppm (157 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Respirable Particulate Matter (PM&lt;sub&gt;10&lt;/sub&gt;)</td>
<td>24-Hour</td>
<td>50 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Same as Primary Standard</td>
<td>Gravimetric or Beta Attenuation</td>
<td>150 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Inertial Separation and Gravimetric Analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual Arithmetic Mean</td>
<td>20 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Same as Primary Standard</td>
<td>Gravimetric or Beta Attenuation</td>
<td>50 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Inertial Separation and Gravimetric Analysis</td>
<td></td>
</tr>
<tr>
<td>Fine Particulate Matter (PM&lt;sub&gt;2.5&lt;/sub&gt;)</td>
<td>24-Hour</td>
<td>No Separate State Standard</td>
<td>65 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>--</td>
<td>15 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Inertial Separation and Gravimetric Analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual Arithmetic Mean</td>
<td>12 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Same as Primary Standard</td>
<td>Gravimetric or Beta Attenuation</td>
<td>15 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Inertial Separation and Gravimetric Analysis</td>
<td></td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>8-Hour</td>
<td>9.0 ppm (10 mg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>Nondispersive Infrared Photometry (NDIR)</td>
<td>9.0 ppm (10 mg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>None</td>
<td>Nondispersive Infrared Photometry (NDIR)</td>
</tr>
<tr>
<td></td>
<td>1-Hour</td>
<td>20 ppm (23 mg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>Nondispersive Infrared Photometry (NDIR)</td>
<td>35 ppm (40 mg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>8-Hour</td>
<td>6 ppm (7 mg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>Gas Phase Chemiluminescence</td>
<td>0.053 ppm (100 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>Gas Phase Chemiluminescence</td>
</tr>
<tr>
<td></td>
<td>(Lake Tahoe)</td>
<td></td>
<td></td>
<td>Gas Phase Chemiluminescence</td>
<td>0.053 ppm (100 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>Gas Phase Chemiluminescence</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO&lt;sub&gt;2&lt;/sub&gt;)</td>
<td>1-Hour</td>
<td>0.25 ppm (470 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Annual Arithmetic Mean</td>
<td>--</td>
<td>Same as Primary Standard</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Sulfur Dioxide (SO&lt;sub&gt;2&lt;/sub&gt;)</td>
<td>24-Hour</td>
<td>0.04 ppm (105 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>--</td>
<td>Ultraviolet Fluorescence</td>
<td>0.14 ppm (365 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>--</td>
<td>Spectrophotometry (Pararosoaniline Method)</td>
</tr>
<tr>
<td></td>
<td>3-Hour</td>
<td>--</td>
<td>--</td>
<td>Ultraviolet Fluorescence</td>
<td>0.14 ppm (365 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>--</td>
<td>Spectrophotometry (Pararosoaniline Method)</td>
</tr>
<tr>
<td></td>
<td>1-Hour</td>
<td>0.25 ppm (655 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>--</td>
<td>Ultraviolet Fluorescence</td>
<td>0.14 ppm (365 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>--</td>
<td>Spectrophotometry (Pararosoaniline Method)</td>
</tr>
<tr>
<td>Lead&lt;sup&gt;(9)&lt;/sup&gt;</td>
<td>30-Day Average</td>
<td>1.5 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>--</td>
<td>Atomic Absorption</td>
<td>1.5 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Same as Primary Standard</td>
<td>High-Volume Sampler and Atomic Absorption</td>
</tr>
<tr>
<td></td>
<td>Calendar Quarter</td>
<td>--</td>
<td>Same as Primary Standard</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Visability Reducing Particles</td>
<td>8-Hour</td>
<td>Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%</td>
<td>--</td>
<td>Beta Attenuation and Transmittance through Filter Tape</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Sulfates</td>
<td>24-Hour</td>
<td>25 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Same as Primary Standard</td>
<td>Ion Chromatography</td>
<td>25 µg/m&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Same as Primary Standard</td>
<td>High-Volume Sampler and Atomic Absorption</td>
</tr>
<tr>
<td>Hydrogen Sulfide</td>
<td>1-Hour</td>
<td>0.03 ppm (42 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>Ultraviolet Fluorescence</td>
<td>0.03 ppm (42 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>Ultraviolet Fluorescence</td>
</tr>
<tr>
<td>Vinyl Chloride&lt;sup&gt;(9)&lt;/sup&gt;</td>
<td>24-Hour</td>
<td>0.01 ppm (26 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>Gas Chromatography</td>
<td>0.01 ppm (26 µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>Same as Primary Standard</td>
<td>Ultraviolet Fluorescence</td>
</tr>
</tbody>
</table>
Table 5.5-1 (Continued)

Notes: (1) California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter – PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

(2) National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms per cubic meter (µg/m³) is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

(3) Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to parts per million by volume, or micromoles of pollutant per mole of gas.

(4) Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

(5) National Primary Standards. The levels of air quality necessary, with an adequate margin of safety to protect the public health.

(6) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

(7) Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

(8) New federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. Contact U.S. EPA for further clarification and current federal policies.

(9) The ARB has identified lead and vinyl chloride as ‘toxic air contaminants’ with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: CARB 2003b
Table 5.5-2
CO Emission Trends for SDAB (tons/day, annual average)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>All Sources</strong></td>
<td>3274</td>
<td>3006</td>
<td>2894</td>
<td>2425</td>
<td>1702</td>
<td>1266</td>
<td>950</td>
<td>775</td>
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<tr>
<td><strong>Stationary Sources</strong></td>
<td>17</td>
<td>23</td>
<td>23</td>
<td>28</td>
<td>30</td>
<td>43</td>
<td>39</td>
<td>59</td>
</tr>
<tr>
<td><strong>Areawide Sources</strong></td>
<td>56</td>
<td>62</td>
<td>68</td>
<td>72</td>
<td>64</td>
<td>66</td>
<td>68</td>
<td>70</td>
</tr>
<tr>
<td><strong>On-Road Mobile</strong></td>
<td>3059</td>
<td>2740</td>
<td>2586</td>
<td>2067</td>
<td>1360</td>
<td>930</td>
<td>626</td>
<td>438</td>
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<tr>
<td>Gasoline Vehicles</td>
<td>3056</td>
<td>2735</td>
<td>2575</td>
<td>2052</td>
<td>1347</td>
<td>918</td>
<td>616</td>
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<tr>
<td>Diesel Vehicles</td>
<td>3</td>
<td>6</td>
<td>11</td>
<td>15</td>
<td>13</td>
<td>11</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td><strong>Other Mobile</strong></td>
<td>142</td>
<td>181</td>
<td>217</td>
<td>259</td>
<td>248</td>
<td>227</td>
<td>217</td>
<td>208</td>
</tr>
</tbody>
</table>

Source: CARB 2003a

**Ozone and Hydrocarbons**

Both the peak indicator and the number of days above the state and federal ozone standards have decreased over the last 20 years as shown in Table 5.5-3. The peak 1-hour zone indicator shows an overall decline of 42 percent from 1981 to 2000. The number of state and federal 1-hour standard exceedance days has dropped even more. There were 192 state standard exceedance days in 1981 and 15 state exceedance days during 2002. This represents a decrease of about 92 percent. During 1981, there were 78 federal 1-hour exceedance days. There were no federal 1-hour standard exceedance days during 2002. However there were days that exceeded the federal 8-hour standard. It is clear that additional local emissions controls are needed to maintain attainment of the ozone standards in the San Diego region. However, because of transport, future air quality in this area would also be affected by emissions controls and growth in the South Coast Air Basin and, to some extent, Mexico.

On-road motor vehicle emissions account for approximately 50 percent of smog (Reactive Organic Gases (ROG) + NOX) in the San Diego region. ROG emissions have been decreasing overall since 1975. These decreases are mostly due to decreased emissions from motor vehicles, brought about by stricter motor vehicle emission standards. Stationary and areawide source emissions of ROG have remained mostly unchanged over the last 20 years, with stricter emissions standards offsetting industrial and population growth (Table 5.5-4).
Table 5.5-3
NO\textsubscript{X} Emissions Trends for SDAB (tons/day, annual average)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>All Sources</strong></td>
<td>289</td>
<td>282</td>
<td>294</td>
<td>326</td>
<td>277</td>
<td>235</td>
<td>194</td>
<td>161</td>
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<tr>
<td>Stationary Sources</td>
<td>51</td>
<td>37</td>
<td>22</td>
<td>25</td>
<td>21</td>
<td>17</td>
<td>15</td>
<td>20</td>
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<td>Areawide Sources</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>On-Road Mobile</td>
<td>178</td>
<td>174</td>
<td>195</td>
<td>216</td>
<td>185</td>
<td>149</td>
<td>113</td>
<td>83</td>
</tr>
<tr>
<td>Gasoline Vehicles</td>
<td>168</td>
<td>155</td>
<td>156</td>
<td>157</td>
<td>133</td>
<td>96</td>
<td>62</td>
<td>43</td>
</tr>
<tr>
<td>Diesel Vehicles</td>
<td>10</td>
<td>19</td>
<td>39</td>
<td>59</td>
<td>52</td>
<td>52</td>
<td>51</td>
<td>40</td>
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<tr>
<td>Other Mobile</td>
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<td>69</td>
<td>73</td>
<td>81</td>
<td>81</td>
<td>66</td>
<td>62</td>
<td>55</td>
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</tbody>
</table>

Source: CARB 2003a

Table 5.5-4
ROG Emission Trends for SDAB (tons/day, annual average)

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<tr>
<td><strong>All Sources</strong></td>
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<td>431</td>
<td>407</td>
<td>335</td>
<td>260</td>
<td>218</td>
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<tr>
<td>Stationary Sources</td>
<td>35</td>
<td>56</td>
<td>54</td>
<td>52</td>
<td>45</td>
<td>50</td>
<td>56</td>
<td>64</td>
</tr>
<tr>
<td>Areawide Sources</td>
<td>35</td>
<td>41</td>
<td>45</td>
<td>47</td>
<td>42</td>
<td>40</td>
<td>40</td>
<td>42</td>
</tr>
<tr>
<td>On-Road Mobile</td>
<td>328</td>
<td>306</td>
<td>274</td>
<td>196</td>
<td>133</td>
<td>89</td>
<td>60</td>
<td>43</td>
</tr>
<tr>
<td>Gasoline Vehicles</td>
<td>337</td>
<td>305</td>
<td>271</td>
<td>193</td>
<td>130</td>
<td>86</td>
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<td>Diesel Vehicles</td>
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<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Other Mobile</td>
<td>24</td>
<td>29</td>
<td>34</td>
<td>39</td>
<td>40</td>
<td>37</td>
<td>27</td>
<td>23</td>
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</tbody>
</table>

Source: CARB 2003a

The region exceeded the federal standard for one-hour ozone on two days in 2001, and one day in 2003, compared with 12 days in 1995 and 87 days in 1980. No violations of the federal ozone standard were recorded in the SDAB in 1999, 2000, and 2002. The region exceeded the more stringent state standards on 29 days in 2001, 15 days in 2002, and 23 days in 2003, compared with 96 days in 1995 and 167 days in 1980.

The federal 1-hour ozone standard is attained when each monitoring site in the region has no more than 3 days in a 3-year period within a maximum hourly average concentration exceeding the standard. The standard has now been attained and the SDAB has recently been redesignated as an attainment area by EPA. San Diego still has not met the more restrictive state 1-hour ozone standard, or the federal 8-hour ozone standard.

The EPA is in the process of phasing out and replacing the 1-hour federal ozone standard with a more protective 8-hour standard (8pphm) to address the adverse health effects of prolonged exposure. The 1-hour standard will be revoked in 2005. Although the 8-hour
standard was not established until 1997, past monitoring data showed that in 1990 the region would have exceeded the standard nearly 100 days, whereas in 2003, the standard was exceeded 6 days. An air quality plan is due to the EPA in 2007 demonstrating how the 8-hour standard will be attained throughout the region in 2009. (SDAPCD, 2004b).

**Particulates**

This standard measures particulates (PM$_{10}$) in the respirable range (10 microns or less) and is reported as a 24-hour average and as an annual measure. Direct emissions of PM$_{10}$ have almost doubled in the SDAB between 1975 and 2010 (as shown in Table 5.5-5). This increase is due to growth in emissions from areawide sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, dust from construction and demolition operations, and particulates from residential fuel combustion (including wood). The growth in these areawide sources is primarily due to population growth and increases in vehicle miles traveled (VMT). Particulates are measured at the Chula Vista, El Cajon, Kearny Mesa, Escondido, Downtown San Diego, and Otay Mesa monitoring stations. The basin overall is currently in attainment of the federal standards but has not met the more stringent state standard.

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<tr>
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<td>8</td>
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<td>8</td>
<td>8</td>
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<td><strong>Areawide Sources</strong></td>
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<td>93</td>
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<td><strong>On-Road Mobile - Diesel Vehicles</strong></td>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
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<td>1</td>
</tr>
<tr>
<td><strong>Other Mobile</strong></td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: CARB 2003a

**Nitrogen Dioxide and Sulfur Dioxide**

NO$_X$ (including nitrogen dioxide) emissions in the SDAB follow the statewide trend of declining from 1990 to 2010 (Table 5.5-3). In the past, the SDAB had a nitrogen dioxide problem. Maximum 1-hour concentrations during the 1980s occasionally exceeded the ambient air quality standards. However, ambient concentrations are now well below the levels of both the state and national standards. Data show that the maximum peak 1-hour
indicator decreased 46 percent from 1982 to 2001, and the SDAB is in attainment for the nitrogen dioxide standards.

Because NO\textsubscript{X} emissions contribute to ozone, as well as to nitrogen dioxide, many of the ozone control measures help reduce ambient NO\textsubscript{2} concentrations. Furthermore, NO\textsubscript{X} emission controls are a critical part of the ozone control strategy and are not expected to be relaxed in the future.

The low level sulfur dioxide (SO\textsubscript{2}) in the basin could be attributed to use of low-sulfur fuels in the region’s electrical generators, a primary source of this pollutant in other areas of the country.

**Lead**

The SDAB is presently in attainment for lead. San Diego no longer monitors for lead because the use of unleaded gasoline has lowered lead levels to well below air quality standards.

**Regional Air Quality Summary**

In summary, based on data from the regional air quality monitoring network, the CARB has classified the air basin as a nonattainment area with respect to the state standards for ozone and PM\textsubscript{10}.

**Regulatory Framework**

**Federal Regulations**

The federal Clean Air Act (CAA) of 1970, amended in 1977 and 1990 (42 U.S.C. 7506(c)), was enacted for the purpose of protecting and enhancing the quality of the nation’s air resources to benefit public health, welfare, and productivity. In 1971, to achieve the purposes of Section 109 of the act, the Environmental Protection Agency (EPA) promulgated National Ambient Air Quality Standards (NAAQS). The NAAQS require that certain pollutants should not exceed specified levels; areas that exceed the standard for specified pollutants are designated as “nonattainment areas.” Six pollutants of primary concern were designated: O\textsubscript{3}, CO, SO\textsubscript{2}, lead, and PM\textsubscript{10} – PM\textsubscript{2.5}. In promoting
the NAAQS, the EPA allowed states the option to develop different (stricter) standards. Both sets of standards must be met in California.

If an air basin is not in attainment with federal standards for a particular pollutant, the basin is classified as marginal, moderate, serious, severe, or extreme. The Federal Clean Air Act Amendments of 1990 (CAA) require each state containing nonattainment areas to submit a State Implementation Plan (SIP) to the federal EPA. The SIP specifies measures to be taken to attain the NAAQS by a specified attainment deadline. California’s 1994 Ozone SIP was approved by the EPA in February 1997. In a series of rulemakings published from August to October 2002, the EPA published a final determination that the SDAB has attained the 1-hour ozone federal standard (EPA 2002). Prior to determination, San Diego had been designated as a “serious” nonattainment area. The SDAB is in federal attainment for all other criteria pollutants and is a maintenance area for carbon monoxide.

The CAAA, the Intermodal Surface Transportation Efficiency Act of 1991, and the subsequent TEA-21 of 1998 signaled the intent of Congress to promote major reforms in the transportation planning process. The conformity provisions of the CAAA require that transportation officials make a commitment to programs and projects that help achieve national air quality goals. Among the goals are providing for greater integration of the transportation and air quality planning processes; ensuring that transportation plans, programs, and projects conform to the “purpose” of the SIP for the attainment of the NAAQS; and reducing the growth in VMT and congestion in areas that have not attained the NAAQS. To conform to the San Diego portion of the SIP, the RTP considered the most recent estimates of mobile source emissions and contributed to emissions reductions for areas designated nonattainment for ozone or carbon monoxide. In addition, transportation projects must come from a conforming transportation plan and program.

“Conformity” is a determination that transportation plans and programs in nonattainment areas meet the purpose of the SIP. The Metropolitan Planning Organization (in the San Diego region, SANDAG) and the United States Department of Transportation (USDOT) make this determination. Conformity determinations for transportation plans, programs, and projects are based on the USDOT/EPA conformity rule issued in November 1993 and subsequent amendments.

The EPA revised the NAAQS in 1997 to set new eight-hour ozone and particulate matter standards, including a new standard for fine particulate matter (PM$_{2.5}$ – particulate matter).
Air Quality

2.5 micrograms or smaller). The revisions were challenged in court, and on June 18, 1999, the U.S. Court of Appeals ruled the new PM$_{2.5}$ standard should be retained. In early 2001, the U.S. Supreme Court upheld EPA’s authority to establish the standard but ordered EPA to develop a new implementation policy. The Supreme Court deferred resolution of remaining legal challenges to the Court of Appeals. In early 2002, the Court of Appeals unanimously rejected all remaining legal challenges. In April 2004, EPA will designate areas as either attainment or nonattainment for the eight-hour ozone standard and will classify the areas according to how badly polluted they are. The San Diego air basin is anticipated to be designated nonattainment for the eight-hour ozone standard. Designations for the PM$_{2.5}$ standard are expected in late 2004.

State Legislation

The 1982 SIP anticipated attaining federal ozone and carbon monoxide standards by 1987. However, these standards were not attained at that time. A lack of congressional action to reauthorize the federal CAA served as the impetus for the California Legislature to address the state's continuing effort to improve air quality. In 1988, the California Clean Air Act (CCAA) was enacted requiring that the APCD prepare a revised RAQS for achieving the state and national air quality standards.

The State of California has set more stringent limits than the federal standards on the six pollutants of national concern. These standards are shown in Table 5.5-1. California has established ambient standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles.

Furthermore, the following RAQS and TCM Plan objectives are required by state law for the San Diego region:

- Reasonably available transportation control measures sufficient to substantially reduce the rates on increase in passenger vehicle trips and miles traveled per trip;

- Measures to achieve the use of significant number of low-emission motor vehicles by operators of motor vehicle fleets (e.g., CARB’s Low Emission Vehicle program); and

- Provisions to develop indirect source control programs.
California Clean Air Act. Amendments to the CCAA became effective on January 1, 1989. The act requires that air pollution control districts implement regulations to reduce emissions from mobile sources through adoption and enforcement of transportation control measures. The CCAA also requires that air districts not meeting state air quality standards prepare local air plans to demonstrate strategies for attainment of those standards.

Requirements for “serious” areas also include implementing a permit program to achieve no net increase in emissions of nonattainment pollutants from all permitted new and modified stationary sources, and a requirement for best available retrofit control technology (BARCT) for existing stationary sources. Some of the measures required by the CCAA would reduce energy consumption as well as pollutant emissions.

State Implementation Plan (SIP). The SIP sets forth the state’s strategies for achieving air quality standards. The San Diego APCD is responsible for preparing and implementing the RAQS (that portion of the SIP applicable to the SDAB). In San Diego, the Air Pollution Control Board, which governs the APCD, is comprised of the San Diego County Board of Supervisors. The San Diego APCD adopts rules, regulations, and programs to attain state and federal air quality standards and appropriates funds (including permit fees) to achieve these objectives.

To ensure that the SIP does not become outdated, the CCAA requires annual updates reporting on the implementation schedule of the control measures. Every three years, the overall effectiveness of the RAQS must be addressed and submitted to the CARB in a report adopted at a public hearing (APCD 1992).

The specific actions included in the TCMs in the 1982 SIP have been fully implemented and continue to be funded. These tactics can be grouped into the following three major categories, as indicated below:

<table>
<thead>
<tr>
<th>Transportation Capacity Expansion Tactics</th>
<th>The Transit Improvement and Expansion Program includes converting the current bus fleet to low emission vehicles, and 29 percent increase in bus service, and a 130 percent increase in rail service (from 1990 levels) to be accomplished by the year 2000.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Vanpool Program includes the addition of 80 new vanpools, at a rate of 10 vanpools per year, by the year 2000.</td>
</tr>
<tr>
<td></td>
<td>The High Occupancy Vehicle Lanes Tactic includes the provision of HOV bypass lanes at metered ramps and implementation of additional HOV lanes as state and federal funding becomes</td>
</tr>
</tbody>
</table>
available.

- The Park-and-Ride Facilities Tactic includes strategies to encourage utilization of the existing park-and-ride facilities, as well as the development of 4,800 additional spaces, if state and federal funds are available.
- The Bicycle Facilities Tactic includes the construction of 25 miles of bikeways per year and other actions to promote bicycle usage.

### Transportation System Management Tactics

The Traffic Flow Improvements Tactic includes the coordination and optimization of traffic signals and computerized signal control to increase traffic flow and reduce emissions caused by motor vehicle stops and starts.

### Indirect Source Control Tactics

The Indirect Source Program identifies land use and transportation actions and principles to deal with vehicle-related air pollution.

#### 5.5.2 Methods of Analysis

Air quality conditions in the region were evaluated to determine conformance with the Regional Air Quality Strategy (RAQS) and determine if future conditions would result in the generation of “hot spots.”

#### 5.5.3 Significance Criteria

The RCP would have a potentially significant air quality impact if the project would:

**Regional**

- Conflict with or obstruct implementation of the RAQS.

**Localized**

- Expose sensitive receptors to increased carbon monoxide "hot spots" as a result of increased traffic congestion on local roadways.
5.5.4 Impact Analysis

Would the RCP conflict with or obstruct implementation of the Regional Air Quality Strategy?

Transportation plans and programs associated with the RCP must conform to the purpose of the SIP for the attainment of the NAAQS and state air quality standards to avoid significant impacts on air quality. This can be achieved by including air quality planning committed to attaining federal and state air quality goals such as (1) providing for greater integration of the transportation and air quality planning process; (2) ensuring that transportation plans, programs, and projects conform with the SIP and contribute to attainment of the NAAQS; and (3) reducing the growth in VMT and congestion in areas that have not attained the NAAQS.

A major goal of the RCP to protect air quality in the region will be to continue to implement the RAQS to achieve federal and state air quality standards. One way to achieve the RAQS will be to implement the TCMs contained in the federal and state air quality plans such as ridesharing, transit improvements, traffic flow improvements, and bicycle facilities and programs. Traffic flow improvements will reduce the amount of pollution created by vehicle emissions by reducing the amount of time vehicles spend on roads, while ridesharing, transit improvements, and bicycle facilities and programs will reduce VMT.

Air quality conditions can also be improved with the implementation of programs and needed infrastructure to increase the availability and usage of energy-efficient vehicles such as hybrid electric vehicles, electric vehicles, or those that run on alternative fuels. Replacing combustion engine vehicles with hybrid electric vehicles, electric vehicles, or those that run on alternative fuels will reduce the amount of harmful emissions produced by vehicles. These efforts will be supplemented by efforts to implement emission control programs for stationary sources.

Overall, the RCP would benefit the region’s air quality by helping to relieve regional traffic congestion and by encouraging the use of more efficient transportation methods. The future smart growth land use pattern under the RCP would support a mixed-use development facilitating alternative modes of transportation such as walking or bicycling. The smart growth concept and concentrated urban nodes could reduce average trip distances and encourage transit use.
By including policies and actions that conform to air quality planning by the APCD and other agencies, the RCP would provide for the integration of the transportation and air quality planning processes. Policies and actions specifically require conformance of the transportation plans and programs with the SIP, RAQS, and TCM Plan, and encourage the conformance of individual projects through the environmental review process. The application of advanced transportation and vehicle technologies and specific measures adopted in the TCM Plan are designed to reduce the growth in VMT and congestion.

Similarly, encouraging and creating incentives for energy-efficient design in new developments and promoting the reduction of industrial emissions through use of least-polluting cost-effective processes and technologies will benefit the region’s air quality by reducing the amount of harmful pollutants being released into the region’s air. Implementing the air quality control policies, programs, and measures as described above will ensure that implementation of the RCP would not conflict with or obstruct implementation of the applicable Air Quality Management Plan. Similarly, the environmental analysis of the Regional Transportation Plan (RTP) 2030 concluded that implementation of the RTP would not conflict with or obstruct implementation of the RAQS, thus resulting in a less than significant impact.

Construction activities associated with the RCP could impact the region’s air quality. Construction equipment that operates on diesel fuel would emit NOx, CO, ROG, and SOx into the air during construction activities. These emissions would have the potential to exceed daily emissions standards set by the APCD. Similarly, grading and earth moving activities associated with preparation of the site for construction could potentially emit PM10 into the air and could potentially exceed daily emissions standards set by the APCD. Finally, construction activities associated with the RCP would generate additional vehicle trips by construction workers traveling to and from construction sites. These additional trips would contribute more harmful emissions to the current level of emissions related to existing VMT in the region. These potential impacts related to construction activities associated with the RCP would cease once construction was completed and thus would be localized and short term. However, these impacts would still be significant despite their short duration. Therefore, implementation of the RCP will result in localized short term significant air quality impacts.
Would the RCP expose sensitive receptors to increased carbon monoxide "hot spots" as a result of increased traffic congestion on local roadways?

One of the main goals of the RCP is to increase urban density through the implementation of smart growth strategies. Future smart growth developments associated with the RCP would support a mixed-use development facilitating alternative modes of transportation such as walking or bicycling and could reduce average trip distances and encourage transit use. However, the increased density could increase the volume of traffic flow at some existing intersections which could potentially create “hot spots,” areas where an increased number of vehicles are idling at roadway intersections releasing emissions and causing CO concentrations to exceed state and federal standards. This typically occurs where intersections are below a Level of Service (LOS) E with atmospheric conditions that do not cause dispersal of pollutants. The potential for hot spots to develop has been reduced significantly over the years. Implementation of air quality control measures and improvements on car emissions have greatly reduced the background levels of CO within the region. This has greatly reduced the likelihood that increases in vehicle congestion will lead to the creation of hot spots. However, increases in vehicle congestion associated with increases in urban density have the potential to create hot spots, creating a significant air quality impact.

5.5.5 Mitigation Measures

Air-1 For projects that exceed daily construction emissions established by SDAPCD, Best Available Control Measures (BACMs) shall be incorporated to reduce construction emissions to below daily emission standards established by SDAPCD. Appropriate BACMs will be determined on a project by project basis, and are specific to the pollutant for which the daily threshold has been exceeded. BACMs that may be appropriate for construction activities that exceed daily ROG thresholds include using precoated building materials, using high pressure/low volume paint applicators, and using lower volatility paint. BACMS that may be appropriate for construction activities that exceed daily CO, NOx or SOx thresholds include phasing of construction activities.
5.5.6 Summary of Impacts With Significance Conclusions

Regional Impacts

Implementation of the RCP would not conflict with, or obstruct implementation of, the Regional Air Quality Strategy.

Construction

Construction activities associated with the RCP could impact the region’s air quality with NOX emissions released from construction equipment, PM_{10} emissions related to grading and earth moving activities, and increased vehicle trips by construction workers traveling to and from construction sites. With implementation of mitigation measures Air-1, construction emission impacts would be reduced to below a level of significance.

Hot Spots

Increased density could increase the volume of traffic flow at some existing intersections which could potentially increase the number of vehicles that are idling at roadway intersections releasing emissions and causing CO concentrations to exceed state and federal standards. This could expose sensitive receptors to localized hot spots, creating a significant air quality impact. Implementation of mitigation measure Trans-1 would reduce this impact to below a level of significance.
5.6 NOISE

5.6.1 Existing Conditions

Definitions of Acoustical Terms

Noise can be defined as unwanted sound. Whether a sound is undesirable is often dependent on the receiver’s activity and time of the day. The same noise may be more annoying when a person is reading or studying than when he or she is watching television or doing something else that generates noise. Likewise, a siren in the middle of the night would usually be more annoying than one heard during the day. Excessively high noise levels can cause physical injury and adverse psychological effects.

Noise is commonly described in terms of decibels (dB). A decibel is measured logarithmically; for every increase in noise of 1 dB, the noise level increases by 10 times. The healthy human hearing system can hear an extremely wide range of sound pressures. By using logarithms, the decibel system condenses the wide range to one which is more convenient, covering 0 decibels (threshold of hearing) to 140 decibels (threshold of pain) (Harris 1991).

A-weighted sound pressure levels in decibels (dBA) are the most commonly used units of measure for community noise studies. A-weighted sound pressure levels represent an approximation of the frequency response of a healthy human hearing system. A-weighting takes into account the fact that humans are more sensitive to higher frequency sounds than lower frequency sounds.

Many different descriptors have been developed to evaluate community response to noise. The most widely used descriptors today are the average noise level (L_{eq}), the Community Noise Equivalent Level (CNEL), and the day/night average noise level (L_{dn}). The \( L_{eq} \) is the noise level equivalent to the actual time-varying noise level occurring over a specified period of time (usually 1 hour). The CNEL is a 24-hour measure of community noise exposure. The CNEL is an average of the \( L_{eq} \) that occur during a 24-hour period. However, when determining the 24-hour average, 5 dBA are added to the evening (7:00 p.m. to 10:00 p.m.) noise level averages and 10 dBA are added to the nighttime (10:00 p.m. to 7:00 a.m.) noise level averages to account for added sensitivity to noise during these times. The \( L_{dn} \) is similar to the CNEL, except that the evening hours are not weighted.
Ambient Levels and Existing Noise Sources

The ambient noise level is the all-encompassing noise associated with a given environment at a specified time. It is the composite of sound from many sources in all directions, near and far, with no particular sound being dominant (Harris 1991). Typical ambient levels range from 35 to 50 CNEL in rural and agricultural areas, 50 to 65 CNEL in suburban to urban areas, and 65 to 75 CNEL in downtown urban areas (EPA 1974).

The most prevalent noise generators in the San Diego region are vehicular and aircraft (airplanes and helicopters) traffic. Railroads and stationary industrial and commercial sources also contribute to the noise environment. Local collector streets are not considered to be a significant source of noise since traffic volume and speed are generally much lower than for freeways and arterial roadways.

Regulatory Framework

Federal, state, and local governments all have roles in the regulation of noise. The federal government establishes noise criteria for interstate highways. The California Department of Transportation (Caltrans) also uses these criteria for state routes. In California, the state establishes noise emission limits for individual vehicles. The state also promulgates interior noise standards in the Uniform Building Code (Title 24). Local governments have noise ordinances in their municipal codes to regulate stationary sources of noise and guidelines in their general plans to determine the impacts of transportation noise on different types of land uses.

For planning around other types of transportation noise sources such as roadways and light-rail transit, the City and County of San Diego use typical guidelines shown in Table 5.6-1. The County has an exterior noise level standard of 60 CNEL for noise-sensitive areas, defined as residences, hospitals, schools, libraries, and other facilities where quiet is an important environmental attribute. The more urbanized City of San Diego has an exterior noise level standard of 65 CNEL for noise-sensitive uses. Other cities in the region have transportation noise level standards similar to those of the City or County. These standards are designed to protect sensitive land uses from high noise levels and to be used as guidelines in siting land uses.

The State Uniform Building Code (Title 24, Noise Insulation Standards) establishes interior noise levels of 45 CNEL for new hotels, motels, and multi-family residences due
Table 5.6-1
Land Use Compatibility for Community Noise Environment

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Community Noise Exposure $L_d$ or CNEL, dBA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>55</td>
</tr>
<tr>
<td>Residential - Low Density</td>
<td></td>
</tr>
<tr>
<td>Single Family, Duplex, Mobile Homes</td>
<td></td>
</tr>
<tr>
<td>Residential - Multi. Family</td>
<td></td>
</tr>
<tr>
<td>Transient Lodging - Motels, Hotels</td>
<td></td>
</tr>
<tr>
<td>Schools, Libraries, Churches, Hospitals,</td>
<td></td>
</tr>
<tr>
<td>Nursing Homes</td>
<td></td>
</tr>
<tr>
<td>Auditoriums, Concert Halls, Amphitheaters</td>
<td></td>
</tr>
<tr>
<td>Sports Arena, Outdoor Spectator Sports</td>
<td></td>
</tr>
<tr>
<td>Playgrounds, Neighborhood Parks</td>
<td></td>
</tr>
<tr>
<td>Golf Courses, Riding Stables, Water</td>
<td></td>
</tr>
<tr>
<td>Recreation, Cemeteries</td>
<td></td>
</tr>
<tr>
<td>Office Buildings, Business Commercial and</td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td></td>
</tr>
<tr>
<td>Industrial, Manufacturing, Utilities,</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
</tr>
</tbody>
</table>

**INTERPRETATION:**

- **Normally Acceptable:** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

- **Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

- **Normally Unacceptable:** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

- **Clearly Unacceptable:** New construction or development should generally not be undertaken.


to exterior transportation sources. Many jurisdictions in the San Diego region extend this 45 CNEL interior limit to single-family residences.
Traffic Noise

The traffic noise generated on a roadway is dependent on traffic speed, volume, and percentage of trucks. In general, the larger the traffic volume is on a roadway, the higher the noise levels that are generated on the roadway. This holds true until there is so much traffic that flow degrades and speeds decrease, which lowers noise levels. Roadways with large percentages of heavy trucks will generate higher noise levels. A heavy truck traveling 50 miles per hour (mph) generates about 85 dBA, whereas a car traveling the same speed generates only 71 dBA. An increase of 10 dBA is usually perceived as a “doubling” of sound (FHWA 1973).

The roadways which generate the highest noise levels in the region are the interstate and state highways because they have the highest speed limits, the largest traffic volumes, and the most trucks. Highways typically generate 70-80 CNEL at a receptor adjacent to the highway. Heavily used commuter roadways, such as arterials and major streets, also generate significant levels of noise, typically 65-75 CNEL at an adjacent receptor. In San Diego, there is a wide range of land uses located adjacent to highways and major streets, including residences, schools, churches, hospitals, shopping centers, industrial parks, agriculture, parks, and open space.

Railroad Operations

The two basic types of railroad operations are freight trains, and passenger rail operations, the latter consisting of commuter and intercity passenger trains and steel-wheel urban rail transit. Generally, freight operations occur at all hours of the day and night while passenger rail operations are concentrated within the daytime and evening periods. For example, the operating window for freight service on the San Diego Trolley Blue Line is from 2:00 a.m. to 4:00 a.m., Sunday through Friday. On Saturday, light rail service is operated throughout the 24-hour period with night owl service at 30-minute intervals, and freight service is not permitted.

Trains can generate high, relatively brief, intermittent noise events. Train noise is an environmental concern for sensitive uses located along rail lines and in the vicinities of switching yards. Locomotive engines and the interaction of steel wheels and rails generate primary rail noise. The latter source creates three types of noise: 1) rolling noise due to continuous rolling contact; 2) impact noise when a wheel encounter a rail joint, turnout or crossover; and 3) squeal generated by friction on tight curves. For very high-
speed rail vehicles, air turbulence can be a significant source of noise. Train air horns and crossing bell gates contribute to loud noise levels near grade crossings (U.S. DOT 1995).

**Construction Noise Sources**

Construction can be another major, although typically short-term, source of noise. Construction is of most concern when it takes place near sensitive land uses, occurs at night, or in early morning hours. Construction noise can also affect nearby wildlife by interfering with the ability to establish territory, vocalize, or successfully reproduce. Additional discussion of noise impacts to wildlife is provided in Section 5.10, Biological Resources. As discussed above, local governments typically regulate noise associated with construction equipment and activities through enforcement of noise ordinance standards, implementation of general plan policies, and imposition of conditions of approval for building or grading permits. Table 5.6-2 shows typical exterior noise levels at various phases of commercial construction.

**Table 5.6-2**

Typical Construction Phase Noise Levels

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>Noise Level (dBA, L_{eq})^{(1)}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Clearing</td>
<td>84</td>
</tr>
<tr>
<td>Excavation</td>
<td>89</td>
</tr>
<tr>
<td>Pile Driving</td>
<td>100</td>
</tr>
<tr>
<td>Foundations</td>
<td>78</td>
</tr>
<tr>
<td>Erection</td>
<td>85</td>
</tr>
<tr>
<td>Finishing</td>
<td>89</td>
</tr>
</tbody>
</table>

Notes: (1) Average noise levels 50 feet from the noisiest source and 200 feet from the rest of the equipment associated with a given construction phase. Noise levels correspond to commercial projects in a typical urban ambient noise environment.

Source: EPA 1971

**5.6.2 Methods of Analysis**

Noise generated in the region was compared and contrasted with the land uses proposed by the RCP. This comparison was then evaluated to determine if noise levels would exceed land use compatibility guidelines for sensitive receptors established by local jurisdictions. Also considered was the RCP action which indirectly pertains to noise issues. The action is described below:
Urban Form

- **Avoid and mitigate incompatible land uses, for example, by establishing buffers or transition zones between housing and industrial uses or major transportation corridors that could pose a health risk.**

5.6.3 Significance Criteria

The RCP would have a potentially significant noise impact if the project would:

**Regional/Localized**

- Substantially increase (by 3 dB or more) noise levels above the existing condition.

- Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

- Result in exposure of persons to or generation of excessive ground borne vibration.

5.6.4 Impact Analysis

*Would the RCP increase noise levels by 3 dB or more above the existing condition? Would the RCP expose people to, or generates noise levels in excess of, standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Noise impacts related to developments associated with the RCP could either be beneficial or adverse. Implementation of some of the transportation improvements associated with the RCP could be beneficial by reducing the rate of increase of the number of automobiles traveling the county’s roadway system, but also could be adverse by increasing the rate of increase of trucks, buses, and trains, which generate more noise per vehicle. Furthermore, decreasing congestion would allow vehicular traffic on freeways and major arterials to move faster, potentially increasing the noise produced by traffic in that corridor. Development of mixed land uses or more intense residential land uses around transit corridors specifically associated with rail activity could also expose more people to the higher levels of noise generated by high-volume transit corridors. Thus,
transportation improvements associated with the RCP could create noise impacts at sensitive receptors. These impacts were addressed in the RTP EIR as related to the implementation of the RTP. However, additional transportation improvements required in the SGOA may be necessary at the project level to accommodate the increased density. New development would need to conform to all applicable noise standards and regulations within their local jurisdiction, and mitigation for new development can be imposed through discretionary approvals.

Since noise is a highly localized impact, specific and detailed analyses at the project level will be most appropriate. **Future development projects which are identified as having potential noise impacts would be required to prepare a noise study as part of the environmental assessment and review process. These noise studies would determine specific areas of noise impact and would recommend mitigation measures to reduce noise levels.**

Construction activities related to implementation of the RCP would potentially generate short term noise impacts to sensitive land uses located adjacent to construction sites. However, local governments typically regulate noise associated with construction equipment and activities through enforcement of noise ordinance standards (e.g., days of the week and hours of operation), implementation of general plan policies, and imposition of conditions of approval for building or grading permits. Therefore, noise related to construction activities associated with implementation of the RCP would be less than significant.

Future land use planning for new airport facilities and within airport influence areas should ensure the compatibility of new development with airport operations, and phase out incompatible uses to the extent possible. However, existing airports whose noise contours overlap with areas targeted for developments associated with the RCP (e.g. Lindbergh Field, Miramar Marine Corps Air Station, Palomar Airport, and Brown Airfield) may have an increase in the population density in those areas affected by aircraft noise and thus increase the number of people impacted. Therefore, implementation of the RCP will have a significant noise impact upon developments that will take place within the noise contours of existing airports. It should be noted that the adopted Comprehensive Land Use Plans (CLUPs) for each airport contain conditions such as sound attenuation and avigation easements that shall be required by jurisdictions to ensure development surrounding the airport is compatible.
The RCP is predicated on an increase in population and economic activity in the region, and that increase inevitably has the potential to increase noise generated by a number of transportation modes and related activities affecting both human and wildlife receptors. Smart growth land use policies would concentrate that increase in areas where the urbanized environment already sustains a higher noise level than less developed areas and would avoid major increases in noise in less developed areas. Increases in goods movement call for increased traffic in several modes, particularly rail, air cargo, and trucks. On balance in other areas, RCP policies seek to reconcile the effect of increased noise by encouraging more efficient land use, congestion management, transportation, and goods movement policies, therefore, a less than significant impact is noted.

Transit Impacts

The RTP includes major transit improvements designed to improve and expand services and increase ridership. The policies and actions which could affect the region’s noise environment include expansion of the transit system to areas currently not being served, improved, and increased service for the San Diego to Los Angeles rail corridor opening of a San Diego to Oceanside commuter rail line, improvements to bus service in rural areas, increased frequency of bus service in current areas, and construction of transit centers. Impacts not already addressed in the RTP EIR include the potential for density nodes to be proposed within the noise impact zone. The placement of density nodes would increase the number of receptors exposed to noise levels that exceed acceptable levels.

Expanded inter-city and commuter rail service is expected to reduce traffic on freeways and major arterials. These decreases in traffic volumes would not significantly decrease noise levels from the freeways, because the freeways will retain a large volume of trucks and passenger vehicles traveling at high speeds. Additionally, if rail service is located in the same corridor as the freeway, localized noise levels remain high or even increase at certain locations. In addition, reductions in traffic volumes could lead to slight increases in noise as traffic speeds increase. None of these factors are expected to make major differences in noise volumes in heavily-traveled corridors, since changes in vehicle traffic volumes of 100% are required to make a 3 dB difference in traffic noise. Therefore, transit would have a less than significant noise impact.
Alternate Modes/Intermodal Impacts

The promotion and increased use of bicycles as an alternative mode of transportation in San Diego would not create noise impacts. The change in traffic volumes on major roadways due to an increase in bicycle trips would not be great enough to cause a significant decrease in noise levels.

The RTP also includes actions to encourage more efficient intermodal transportation of goods. The number of freight trains currently operating each day in the San Diego region is dependant upon the demands of the industries using rail services and can vary greatly from day to day. Currently, the Burlington Northern and Santa Fe (BN&SF) and the San Diego and Imperial Valley (SDIV) railroads transport rail freight in the San Diego region. Under an agreement made as part of the purchase of 82 miles of BN&SF right-of-way within the San Diego region, BN&SF maintains a freight easement over 62 miles of coastal mainline and the 20-mile branch line between Escondido and Oceanside. The BN&SF also interchanges freight with the SDIV and with the U.S. Navy. Currently, the BN&SF runs approximately four freight trains per day between San Diego and the Greater Los Angeles area (two in each direction). Locally, increases in rail transit tonnage would increase the number of freight trains. However, these trains would likely operate on an as-needed basis and would not have a fixed schedule. Therefore, noise levels and frequency of passbys would continue to vary greatly from day to day. On some days there may be no increase in freight train activity. Overall, however, an increase in train traffic would yield a proportionate increase in noise and vibration in areas adjacent to rail corridors and thus could create significant impacts. As discussed previously, these impacts were addressed in the RTP EIR. However, if density nodes are proposed in noise impact zones, the number of receptors exposed to unacceptable noise levels would increase.

Data provided by SANDAG indicate that reopening of the San Diego and Arizona Eastern Railway (SD&AE) will result in elimination of up to 20,000 trucks annually from the highways in the San Diego region after 10 years of operation (SANDAG 1999). Rehabilitation of the 70-mile Desert Line portion of the SD&AE would extend freight service between San Diego and Tecate to the Imperial Valley. To the extent that truck trips are removed from highways, a beneficial effect of noise in the highway corridors would result.
Would the RCP result in exposure of persons to or generation of excessive ground borne vibration?

Vibration impacts could arise from construction activities associated with the RCP. In particular, large scale construction activities such as high-rise buildings in high density areas utilizing pile drivers may create vibrations that would potentially impact the surrounding areas. However, these pile driving activities would be short in duration and cease with completion of construction activities. Furthermore, each project would require its own noise vibration study as part of the environmental assessment and review process. These noise vibration studies would determine specific areas of noise impact and would recommend mitigation measures to reduce noise levels, including measures to reduce impacts associated with vibration. Therefore, vibration impacts associated with implementation of the RCP are less than significant.

5.6.5 Mitigation Measures

Noise-1 Site planning shall be conducted in a manner that avoids impacts to noise sensitive areas (e.g., residences, hospitals, schools, libraries) and sensitive receptors. Sensitive receptors include both humans and noise-sensitive wildlife species. Typical noise mitigation includes either provision of buffers or noise attenuation features. The distance between the noise source and the sensitive receptors shall be adequate to reduce noise levels to acceptable levels (CNEL identified in local land use plan for humans, or generally accepted dBA for wildlife species) or other noise attenuation techniques, such as sound walls or landscaping may be used to reduce noise impacts to levels that are consistent with the local jurisdiction’s requirements.

Noise-2 Land use measures such as zoning designations shall be adopted for future development on land adjacent to transportation facilities to avoid noise and vibration impacts.

Noise-3 Where other methods are impractical, operational constraints shall be imposed (e.g., limits on vehicle speed, regulation of train horns). Operational constraints shall reduce the noise to the levels established by each jurisdiction for the appropriate land use.
Noise

Noise-4 Avoid noise and vibration impacts by the careful siting of facilities and the use of noise-reducing berms, walls, or other barriers as deemed appropriate by local lead agency.

Noise-5 Improve architectural treatment (sound-proofing) to reduce interior noise.

Noise-6 Future development projects that are located in the vicinity of regional airports shall consider noise mitigation conditions recommended in the appropriate airport Comprehensive Land Use Plan.

5.6.6 Summary of Impacts With Significance Conclusions

Transportation Improvements

Transportation improvements associated with the RTP could increase the number of trucks, buses, and trains, which generate more noise per vehicle than automobiles. Furthermore, decreasing congestion would allow vehicular traffic on freeways and major arterials to move faster, increasing the noise produced by traffic in that corridor. Proposing new receptors in the noise impact zone would result in significant impacts. Implementation of mitigation measures Noise-1 through Noise-5 would reduce these impacts to below a level of significance.

Smart Growth

High density areas would potentially be subjected to elevated noise levels due to the proximity of dwelling units to transportation systems. Implementation of mitigation measures Noise-1 through Noise-5 would reduce these impacts to below a level of significance.

Development Near Airports

Development that takes place within the noise contours of existing airports would have significant impacts on that new development. Implementation of mitigation measures Noise-1, Noise-2, Noise-5, and Noise-6 would reduce these impacts to below a level of significance.
Rail Traffic

Increases in rail traffic could also lead to more train horns or whistles at crossings near residential areas, which can be a source of annoyance, especially at night or in early morning or evening. Proposing new receptors in the noise impact zone would result in significant impacts. Implementation of mitigation measures Noise-1, Noise-2, and Noise-5 would reduce these impacts to below a level of significance.

Vibration

Increasing intermodal transportation of goods would result in a subsequent increase in noise and vibration in areas adjacent to rail corridors. Additional localized impacts could occur as a result of construction activities (e.g., pile driving) or rail activities. Proposing new receptors in the noise and vibration impact zone would result in significant impacts. Implementation of mitigation measures Noise-1, Noise-2, and Noise-4 would reduce this impact to below a level of significance.
5.7 ENERGY

5.7.1 Existing Conditions

Demographic Trends

Energy consumption is dependant upon population, among other factors. The County of San Diego, with a population of approximately 2,972,988, has the second largest population of counties in California and sixth largest populations of all counties nationwide. This figure is projected to increase by approximately 30 percent to approximately 3,855,085 by the year 2030. Such a large population increase for an already large population center will undoubtedly substantially increase the demand for energy within the region.

Furthermore, the increased demand for energy created by the large population growth of the county is being exacerbated by other factors. Employment has been growing faster than housing within the San Diego region, forcing people to live further inland and farther away from their place of employment in San Diego County. This leads to longer commutes for motorists that consume greater quantities of energy. Additionally, new housing developments further inland are being located in hotter climates, requiring more air conditioning, which consumes greater quantities of energy.

Increased Demand

Demand for energy has also slowly been increasing as California and the nation as a whole have begun to move out of the economic recession that began in 2001 (SANDAG 2002). Studies have suggested that costs related to the California energy crisis of 2000-2001, declining activities in the technology sector, a 20 percent fall in export demand, and an increase in unemployment had contributed to declining demands for electricity in 2001. However, recent economic statistics have shown an increase in consumer spending, an increase in productivity, a reduction in business inventories, and an increase in business investment which will result in an increase in energy demand, particularly with respect to natural gas.

Plans to develop several gas-fired electricity generating power plants will increase the demand for natural gas as well. There are currently three large generating plants planned for San Diego County (the Otay Mesa Power Plant in Chula Vista, the Palomar Power...
Energy

Plant in Escondido, and the Community Power Project in the City of San Diego) that will place demands on the region’s gas delivery system. San Diego is located at the end of the transmission pipeline network that delivers natural gas to the region from several production basins in North America and is served by one pipeline, SoCalGas. This places the San Diego region in a tenuous position with respect to its delivery options for natural gas. However, potential access to other gas supply sources could be provided by the Baja Norte Pipeline. The addition of this pipeline could increase the supply of natural gas to the region and reduce natural gas prices by bringing more resources together for price competition.

Transportation

Transportation demands for energy account for 59 percent of all energy consumption in the San Diego region (SANDAG 1994). Transportation-related energy consumption primarily consists of petroleum-based products: gasoline, diesel fuel, and jet fuel. Most of the gasoline available in the San Diego region originates at the refineries located in the Los Angeles/Long Beach area. This fuel is transported to San Diego by barge and via a pipeline. The fuel is diverted to bulk storage facilities north of Mission Valley and in the South Bay for further distribution to retailers by truck.

Motor vehicles are the largest consumer of fuels in the transportation sector in San Diego, and gasoline accounts for more than 90 percent of the energy consumed by on-road transportation sources (SANDAG 1999). Table 5.7-1 shows average fuel efficiency rates by transportation modes. Although fuel efficiency has been improving, the large increase in vehicle miles traveled has generally increased the amount of gasoline consumed annually. According to 1995 data regarding ridership, mass transit has a higher level of fuel efficiency per person. Based on average vehicle occupancy, automobile trips using gasoline and diesel average 26.5 passenger miles per gallon (mpg), while buses average 30.9 passenger mpg. The Coaster commuter rail service averages 30.0 and the trolley averages 29.8 passenger mpg. The region’s gasoline consumption is projected to increase by 5 percent between 1990 and 2010 to approximately 900 million gallons per year; autos and trucks are projected to become 11 percent more efficient.

After gasoline, diesel fuel is the most utilized transportation energy source, accounting for approximately 10 percent of the energy used annually in the San Diego region’s transportation sector. Primary consumers of diesel fuel in the transportation sector are semitractor trucks, buses, and railway locomotives. Diesel fuel consumption is
forecasted to increase 16 percent by the year 2010 to approximately 89 million gallons (SANDAG 1999).

Table 5.7-1
Fuel Efficiency Average
(mpg Gasoline Equivalents)

<table>
<thead>
<tr>
<th>Category</th>
<th>Fuel</th>
<th>1980</th>
<th>1990</th>
<th>2010</th>
</tr>
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<tr>
<td>Auto</td>
<td>Gasoline</td>
<td>16</td>
<td>22</td>
<td>25</td>
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<tr>
<td></td>
<td>Diesel</td>
<td>26</td>
<td>26</td>
<td>30</td>
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<tr>
<td></td>
<td>Electronic</td>
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<td>60</td>
</tr>
<tr>
<td></td>
<td>Methanol</td>
<td>-</td>
<td>-</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>CNG</td>
<td>-</td>
<td>-</td>
<td>27</td>
</tr>
<tr>
<td>Trucks &lt;10,000 lbs.</td>
<td>Gasoline</td>
<td>14</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Diesel</td>
<td>21</td>
<td>24</td>
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<tr>
<td></td>
<td>Electronic</td>
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<td>38</td>
</tr>
<tr>
<td></td>
<td>Methanol</td>
<td>-</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>CNG</td>
<td>-</td>
<td>-</td>
<td>17</td>
</tr>
<tr>
<td>Trucks 10,000-19,000 lbs.</td>
<td>Gasoline</td>
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<td>7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Diesel</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Trucks 19,000-26,000 lbs.</td>
<td>Gasoline</td>
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<td>6</td>
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<tr>
<td></td>
<td>Diesel</td>
<td>8</td>
<td>8</td>
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</tr>
<tr>
<td>Trucks 26,000-33,000 lbs.</td>
<td>Gasoline</td>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Diesel</td>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Trucks &gt;33,000 lbs.</td>
<td>Gasoline</td>
<td>4</td>
<td>4</td>
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<tr>
<td></td>
<td>Diesel</td>
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<td>Gasoline</td>
<td>7</td>
<td>7</td>
<td>8</td>
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<tr>
<td></td>
<td>Diesel</td>
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<td></td>
<td>Electric</td>
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<td>38</td>
</tr>
<tr>
<td></td>
<td>Methanol</td>
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<td>-</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>CNG</td>
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<td>-</td>
<td>17</td>
</tr>
<tr>
<td>Urban bus</td>
<td>Diesel</td>
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<td>3</td>
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</tr>
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<td>Motorcycle</td>
<td>Gasoline</td>
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</tr>
<tr>
<td>Rail (per car)</td>
<td>Diesel</td>
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<td>2</td>
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</tr>
</tbody>
</table>

Notes:
CNG = Compressed Natural Gas
MPG = Miles per Gallon
Source: SANDAG 2000

State and Federal Policies

State and federal policies and regulations have an impact on the types of fuels the region needs to meet its transportation needs. The Federal Energy Policy Act of 1992 (FEPA) mandated vehicle fleets to be converted to alternative fuels starting in 1993. By 2003, 75
percent of federal and state government fleets must be converted, along with 30 percent of local government and private fleets. The requirement may be met by converting existing vehicles or purchasing new fleet vehicles.

Alternative fuel consumption for transportation is expected to increase dramatically between now and 2010. For example, 1990 levels of electric fuels were estimated at approximately 230,000 annual gasoline gallons equivalent (gallons), most of which can be attributed to the San Diego Trolley. With the introduction and market penetration of electric vehicles, electricity-based fuel consumption will increase dramatically and reach approximately 18 million gallons by 2010. These figures represented approximately 1.5 percent of projected transportation energy consumed in the region. In 1990, electricity accounted for less than 0.03 percent of transportation energy consumed. More electric energy will be needed as a result of the conversion of vehicles to alternative fuels.

**Corporate Average Fuel Economy Standards**

The Corporate Average Fuel Economy (CAFE) standards are promulgated by the Environmental Protection Agency (EPA). These standards establish average fuel efficiency values for the fleets of cars produced by each automobile manufacturer. Any increases in the required fuel efficiency of fleets will decrease fuel consumption as the newer, more efficient vehicles replace older, less efficient vehicles.

**Alternative Fuel Programs**

Alternative fuels are any nongasoline or nondiesel fuel, such as natural gas and electricity. Table 5.7-1 also shows the requirements for each type of vehicle fleet. The use of alternative-fuel vehicles will reduce the consumption of imported petroleum products.

Among other programs, financial incentives are included in the FEPA. Federal tax deductions will be allowed for businesses and individuals to cover incremental costs of alternative-fuel vehicles. Additionally, FEPA requires states to consider a variety of incentive programs to help promote alternative-fuel vehicles.

The California Low-Emissions Vehicle Program, established by the California Air Resources Board (CARB), is an example of an incentive program that was active prior to FEPA. It requires that a specified number of clean-fuel automobiles be sold in California.
and that fuel suppliers produce and distribute sufficient amounts of clean fuels (SANDAG 1994). By 2003, at least 10 percent of all cars and light-duty trucks sold by each manufacturer in California were to be “zero-emission vehicles” (ZEV). Of existing technologies, only electric vehicles meet the ZEV definition, although it should be noted that their operation requires the burning of fuel at power plants where related air pollution is produced (SANDAG 1999).

California has also established the Katz safe school bus program. This program will replace approximately 10 percent of the pre-1977 school buses in service with safe school buses. A majority of these replacement buses will operate on clean fuels.

As a fuel provider, San Diego Gas & Electric (SDG&E) is required to meet vehicle fleet requirements for alternative fuels under the FEPA. SDG&E is using and promoting alternative fuels. These programs will help with the market penetration of clean vehicles and fueling stations to make them a viable option.

**Energy Regulations**

Many of the regulatory decisions affecting energy in the San Diego region are made outside the region. The California Public Utilities Commission (CPUC) regulates energy issues related to supply, delivery, rates, and tariffs for all SDG&E customers in the San Diego region (SANDAG 2003e). Only the commodities cost of electricity and natural gas, which are set by the market, are not under utility and CPUC oversight. However, rates associated with the transmission and distribution of electricity and natural gas are set by the CPUC. Interstate transmission of gas and electricity are regulated by the Federal Energy Regulatory Commission (FERC).

Historically, large generation and transmission infrastructure projects in the San Diego region were funded, developed, and maintained by SDG&E with oversight by the CPUC. However, California implemented several fundamental changes to the structure of the electricity market in 1998 related to AB 1890, which was put into law in 1996 (SANDAG 2002). These changes removed control of the CPUC over the energy industry as most power plants were sold to private industry in order to make long term energy planning a function of the marketplace rather than the utilities (SANDAG 2003e).

Opening the energy market to market forces created congestion and unnecessary cost increases. Although energy costs were kept relatively low for the first two years due to
regulated price caps, prices steadily climbed as regulators were unable to react to suppliers and marketers who sought to maximize profits once the caps were lifted (SANDAG 2002). Currently, the legislature and CPUC are working toward re-regulating the industry. Effective January 1, 2003, state legislators and the CPUC returned the role SDG&E played prior to de-regulation in planning and acquiring the resources necessary for meeting customers’ energy needs. Electric utilities have also been required to develop a 20-year resource plan. SDG&E prepared and filed their plan on April 15, 2003 (SANDAG 2003e).

5.7.2 Methods of Analysis

This Program Environmental Impact Report (PEIR) has assessed the changes associated with the Regional Comprehensive Plan (RCP) from a programmatic approach and reviewed documents pertaining to current and future energy consumption within the region to determine if there would be impacts to energy resources. These changes were considered along with the specific energy action items of the RCP, which are detailed below:

Public Facilities: Energy

- Promote the local production of cost-effective, environmentally sensitive energy to reduce our dependence on imported energy.

- Promote development regulations and design standards to maximize energy efficiency and minimize potential health risks.

- Create opportunities to coordinate energy supply strategies between governments in our greater border region.

- Locate energy facilities, such as power plants and/or transmission lines, so that lower income and minority communities are not disproportionately negatively affected.

- Develop renewable energy resources, including wind, solar, and geothermal, to help meet the region’s need in an environmentally sensitive manner.
Energy

- Replace or upgrade and modernize existing energy production facilities, expand transmission systems.
- Identify and implement energy conservation, efficiency, and incentive programs, such as rebates.

Borders: Energy

- Work with the borders communities to develop programs to promote the conservation and efficient use of energy.

5.7.3 Significance Criteria

The RCP would have a potentially significant energy impact if the project would:

Regional/Localized

- Result in a 3 percent or greater annual increase in energy (renewable or non-renewable) consumption (including that required for operation of the transportation system) over the existing condition.

A threshold of a 3 percent annual increase was used, since it is consistent with the historical population increase in the San Diego region. The growth has generally been a 2 percent annual increase with a 1 percent standard deviation. If energy consumption increases at a rate higher than the annual population increase, then this would be considered significant.

5.7.4 Impact Analysis

Would the RCP result in a 3 percent or greater annual increase in energy (renewable or non-renewable) consumption (including that required for operation of the transportation system) over the existing condition?

The analysis of energy consumption includes a discussion of both renewable and non-renewable energy resource.
Renewable Resources

The RCP promotes local production of cost-effective, environmentally sensitive energy resources, including wind, solar, and geothermal, will help to reduce our dependence on imported energy. Untapped supplies of wind resources exist in the mountains and desert regions in the eastern portion of the county that could be utilized for energy production (SANDAG 2002). Similarly, potential exists for the region to utilize solar and geothermal resources for generating energy. Energy generated from renewable resources would fill the need for new energy resources with energy that does not create CO₂, NOₓ, or other harmful pollutants associated with natural gas. However, the development of renewable energy resources will contribute to the energy needed to meet the demands of the projected population increases for the San Diego region by providing additional sources for consumers throughout the region. Because enhancing the availability of renewable resources would have the effect of either meeting the future needs or offsetting the consumption of non-renewable resources, these impacts would not be significant. Therefore, the production of renewable energy resources would not result in a 3 percent or greater increase in energy consumption.

Non-Renewable Resources

Smart growth developments to be implemented as a part of the RCP would serve to minimize the growth in non-renewable energy consumption associated with the projected growth of the region. Creating mixed development neighborhoods that cluster residential, commercial, and business uses together will reduce the vehicle miles traveled (VMT) by residents. These reduced trips will consume less gasoline and thus reduce the amount of non-renewable energy consumed in the region. The implementation of smart growth developments would also reduce the amount of non-renewable energy consumed within the region compared to the amount of non-renewable energy consumed were smart growth principles not implemented. However, despite this reduction in future energy consumption, the energy used within smart growth developments will result in an annual increase in energy consumption greater than the stated threshold of a 3 percent annual increase. Because the population of the region is projected to increase by 38 percent in by 2030, new developments created to meet the needs of that population increase will require an annual increase in energy consumption greater than 3 percent, even if smart growth developments are implemented. Thus, even though implementing smart growth developments would use less energy compared to the No Project/Existing General Plan alternative, the energy demand would be significant.
5.7.5 Mitigation Measures

The RCP has already included specific goals and objectives that reduce the consumption of non-renewable energy. These include increased reliance on mass transit, reduce average VMT, energy efficiency, promote renewable sources of energy and encourage energy efficiency. However, implementation of these goals and objectives will still result in a significant and unmitigated impact to non-renewable energy resources. Additional measures beyond those identified in the RCP are infeasible.

5.7.6 Summary of Impacts with Significance Conclusions

Renewable Resources

Promoting local production of cost-effective, environmentally sensitive energy resources, including wind, solar, and geothermal, will increase the amount of energy available for consumption associated with the projected population increase for the region. Because the provision of renewable energy sources would either offset future demands or meeting existing demands for non-renewable resources, this would not be a significant impact.

Non-Renewable Resources

Implementation of the RCP and associated regional growth during future developments would result in an increased amount of non-renewable energy consumption throughout the region. Even with the policy goals and objectives included as part of the RCP, energy consumption associated with regional growth would likely exceed 3 percent of non-renewable energy resources. Energy consumption with the RCP would be less than that required under the No Project/Existing General Plan alternative, but would still be significant and unmitigable.
5.8 GEOLOGY/PALEONTOLOGY

5.8.1 Existing Conditions

Geologic Provinces

The San Diego region is underlain by three principle geologic provinces. The majority of the county is in the Peninsular Ranges province bounded by the coastal province to the west and the Salton Trough province to the east. The western edge of the Peninsular Ranges province corresponds with the eastern hills and mountains along the edge of Poway, Lakeside, and El Cajon. Extending east of Julian and Jacumba, the province abruptly ends along a series of faults. To the north, the Peninsular Ranges province continues into the Los Angeles basin area; to the south it makes up the peninsula of Baja California.

The Peninsular Ranges are composed primarily of crystalline batholithic rocks. Batholithic rocks are igneous in origin, being formed under extreme heat and pressure by the solidification of magma deep within the earth’s crust. The older of the batholithic rocks, forced into the existing rocks, are called “prebatholithic.” These older prebatholithic rocks make up the eastern limit of the Peninsular Ranges.

The younger southern California batholithic rocks dominate about 80 percent of the visible outcrops of the Peninsular Ranges and were formed about 140 to 70 million years ago. These rocks are generally granitic in composition and weather into spheroidal boulders. Remnants of the eroding southern California batholith dot the tops and slopes of the County’s eastern hills and mountains.

As the Peninsular Ranges province experienced uplifting and tilting, a series of large faults, such as the Elsinore and San Jacinto, developed along the edge of the province. The eastern area “dropped” down, creating what is now known as the Salton Trough-Gulf of California depression. The Salton trough province, being lower than the surrounding landscape, became an area of deposition with sediments being carried to the depressed area by drainages of the peninsular ranges. Occasionally, the Salton Trough was inundated with marine waters from the Gulf of California, adding marine deposits to the sediment (Peterson 1977).

The coastal plain province extends from the western edge of the Peninsular Ranges and runs roughly parallel to the coastline. The province is composed of dissected, mesalike
terrace that graduate inland into rolling hills. The terrain is underlain by sedimentary rocks composed mainly of sandstone, shale, and conglomerate beds, reflecting the erosion of the Peninsular Ranges to the east.

The geological formations within the study area are also unusually rich and have produced exceptional fossil materials from Cretaceous through Pleistocene associations. The region has experienced numerous periods of sea inundation and regression which results in a greater incidence of accumulated plant and animal materials for fossilization. The result is a rich resource of fossils for reconstruction of paleoenvironmental conditions and descriptive information for geological reconstruction.

Seismic Activity

Earthquakes are caused by the release of accumulated strain along fractures in the earth’s crust (County of San Diego 1975). Several earthquake fault zones exist in and around the San Diego region, as shown in Figure 5.8-1. Since high-magnitude shocks transmit energy over large areas, fault zones outside of the San Diego region boundaries are included in this discussion.

The dominant trend of faulting in southern California is northwest-southeast. In the Transverse Ranges, however, east-west to northeast-trending faults predominate, including a nearly east-west striking segment of the San Andreas fault. Historically, most of the recorded earthquakes and recorded fault breaks occurred as a result of rupture along the faults in the San Andreas system, which suggests that most of the accumulating strain energy is being released along these breaks.

Sources of most earthquakes felt in the county are from the Imperial Valley and offshore fault systems (Lee 1977). The Imperial Valley area is the most active source of local earthquakes and is the location of portions of the San Andreas, San Jacinto, and Elsinore faults. The San Andreas fault is outside the county limits but poses a potential hazard to the San Diego region. It extends a total of 650 miles from Baja California to the California coast north of San Francisco. In the vicinity of San Diego region, the San Andreas fault follows the east side of Coachella and Imperial valleys. The nearest inhabited sections of San Diego region are 30 miles away.
The San Jacinto fault is the largest of the active faults in San Diego region. The fault extends 125 miles from the Imperial Valley to San Bernardino. The maximum probable earthquake expected to occur along the San Jacinto fault would be a magnitude of 7.5 to 7.8 on the Richter scale. An earthquake of this magnitude would likely cause severe damage in Borrego Springs and Ocotillo Wells with moderate damage to coastal areas. Historical activity associated with the San Jacinto fault occurred in 1890, 1899, 1968, and 1979. The quake in 1968 had a recorded magnitude of 6.8 and was centered near Ocotillo Wells. The earthquake of 1979 was associated with a branch of the Imperial fault near the Mexican border and registered a magnitude of 6.4 on the Richter scale, causing extensive structural damage to Imperial Valley residences and businesses.

The Elsinore fault represents a serious earthquake hazard for most of the populated areas of the San Diego region. This fault is approximately 135 miles long, located approximately 40 miles from downtown San Diego. This fault can register earthquakes in the range of magnitude 6.9 to 7.0 on the Richter scale with an approximate recurrence interval of 100 years.

The Rose Canyon fault zone is an active offshore/onshore fault capable of generating an earthquake of magnitude 6.2 to 7.0 on the Richter scale. The fault zone lies partially offshore as part of the Newport/Inglewood fault zone and parallels the north county coastline within approximately two to six miles until coming ashore near La Jolla Shores. The onshore segment trends through Rose Canyon, through Old Town San Diego, and appears to die out in San Diego Bay (Abbott 1989). Evidence of faulting in San Diego Bay is thought to be associated with this fault (County of San Diego 1975). The fault zone is composed of a number of fault segments, including the Rose Canyon, Mount Soledad, and Country Club faults.

The La Nacion fault zone and the Sweetwater fault run parallel to the Rose Canyon fault zone and the San Diego Bay, approximately five miles inland from the bay. These faults are considered potentially active (County of San Diego 1975).

The major offshore fault zones are the San Clemente, San Diego Trough, and Coronado Bank. The San Clemente fault zone, located 40 miles off La Jolla, is the largest offshore fault. It is estimated that the maximum plausible quake along this fault would be between magnitude 6.7 and 7.7 (Kern 1988). An earthquake in 1951 registered 5.9 and was centered near the San Clemente fault (County of San Diego 1975). The San Diego Trough and Coronado Bank fault zones are capable of seismic events of magnitude 6.0 to 7.7 (Demere 1997).
The San Diego region faces the potential for substantial damage associated with seismic and geologic activity (County of San Diego 1975). Earthquake faults occur in and through the urban areas of the region, increasing the potential of earthquake damage on structures and potentially endangering the safety of the area’s inhabitants. Most damage from earthquake activities result from ground movement, causing ground shaking, surface fault rupture, landslides and mudslides, liquefaction, and tectonic subsidence or uplift. Ground shaking is the oscillation or vibration of earth materials which causes the greatest amount of damage during an earthquake. Ground-shaking hazards usually occur in areas underlain by loose, water-saturated, unstable materials. Surface fault rupture results from the intersection of the ground surface with fault displacement. Only one documented incident of surface rupture has occurred in the San Diego region. However, due to recent historical activity of other faults in the county, the potential for surface rupture remains.

**Slope Failure**

Slope failure is the movement of soil and rock material downhill to a lower position. Landslides are the most common naturally occurring type of slope failure in the San Diego region. Block falls, slumps, and block glides are specific types of landslides. The region’s landslides are commonly composite slides, a combination of block glides and slumps. Block falls are of concern primarily in coastal bluff areas (Ganus 1977).

Earthquakes and their aftershocks can intensify or activate an unstable slope. Loosely and weakly consolidated soils, steepened slopes which are due to either human activities or natural causes, and saturated earth materials create a fragile situation easily affected by an earthquake. In the San Diego region, a major earthquake could cause the occurrence of landslides along sea cliffs, on mountain roadcuts, along the slopes of Palomar and Laguna Mountains, and in subdivisions where unprotected cut slopes occur in landslide-prone areas (County of San Diego 1975).

Landslides in the San Diego region generally occur in sedimentary rocks such as sandstone, siltstone, mudstone, and claystone. When these fine-grained rocks are exposed to the erosional actions of air and water, they often turn into clay. Seams of saturated clays can be responsible for landslides even on gentle slopes.

Bentonite clay is a component of many San Diego soils. It is an expandable clay randomly interbedded with sandstone strata. The resistant beds of sandstone can assume a slick surface along with the heavy, waterlogged clays can “slide” down the unstable
slope. A slope can be made potentially unstable by grading operations involving (a) removing material from the bottom of the slope, thus, increasing the angle of the slope; (b) raising the height of the slope above the previous level; (c) saturating the slope with water from septic tank, gutter runoff, or diverted drainage from another part of the slope; or (d) adding fill to the top of the slope, creating additional weight (County of San Diego 1973). In addition, earth-moving activities can reactivate an old slide.

Areas of the county which have experienced sliding are commonly underlain by the Ardath Shale, Friars, Mission Valley, San Diego, and Otay rock formations. The Ardath Shale Formation extends from Torrey Pines State Park to Mission Bay and is composed of Bentonite-rich clay (County of San Diego 1973). The Friars Formation occurs from Mission Valley to beyond Rancho Bernardo. The formation is composed of expandable clays with properties similar to those of bentonite. The Mission Valley Formation is found from Mission Valley to Rancho Bernardo and consists of a mix of shale, bentonite, and sandstone (SDSU 2004). The San Diego Formation occurs throughout the coastal mesas from Mission Valley southward to the Mexican border and consists of fine to medium sandstone. The Otay Formation is found in the southwestern portion of the San Diego region and is composed of slide-resistant sandstone with occasional thin interbedding of bentonite clay (County of San Diego 1973).

Regional Paleontological Resources

All known paleontological resources found in regions with moderate to high paleontological sensitivity are described in Table 5.8-1.

Table 5.8-1
Paleontological Resources

<table>
<thead>
<tr>
<th>Region</th>
<th>Period</th>
<th>Sensitivity</th>
<th>Paleontology Resources Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unnamed River Terrace Deposits</td>
<td>Late Pleistocene</td>
<td>Moderate</td>
<td>Terrestrial vertebrates (i.e., pond turtle, passenger pigeon, hawk, shrew, mole, mice, gopher, squirrel, rabbit, ground sloth, wolf, camel, deer, horse, mastodon, and mammoth).</td>
</tr>
<tr>
<td>Unnamed Marine Terrace Deposits</td>
<td>Late Pleistocene</td>
<td>Moderate</td>
<td>Marine invertebrate fossils (e.g., mollusks, crustaceans, and echinoids). Marine vertebrates (e.g., sharks, rays, and bony fish). Terrestrial mammals (e.g., camel, horse, and mammoth).</td>
</tr>
<tr>
<td>Bay Point Formation</td>
<td>Late Pleistocene</td>
<td>High</td>
<td>Invertebrate fossils (primarily mollusks). Marine vertebrates (i.e., sharks, rays, and bony fishes).</td>
</tr>
<tr>
<td>Region</td>
<td>Period</td>
<td>Sensitivity</td>
<td>Paleontology Resources Found</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| San Diego Formation    | Late Pliocene                  | High        | • Marine vertebrates and invertebrates (i.e., clams, scallops, snails, crabs, barnacles, sand dollars, sharks, rays, bony fishes, sea birds, walrus, fur seal, sea cow, dolphins, and baleen whales.  
  • Terrestrial mammals (e.g., cat, wolf, skunk, peccary, camel, antelope, deer, horse, and gomphothere).  
  • Fossil wood and leaves (e.g., pine, oak, laurel, cottonwood, and avocado). |
| San Mateo Formation    | Late Pliocene to late Miocene | High        | • Marine vertebrates (e.g., rays, sharks, bony fishes, sea birds, dolphins, sperm whale, baleen whales, sea cow, fur seals, walrus, and sea otter).  
  • Terrestrial mammal remains (e.g., horse, camel, llama, and peccary).  
  • Marine invertebrates (e.g., clams, scallops, snails, and sea urchins). |
| Capistrano Formation   | Late Miocene                   | High        | • Marine vertebrates (e.g., sharks, rays, bony fishes, sea birds, toothed whales, baleen whales, sea cow, fur seals, and walruses) (Orange County). |
| San Onofre Breccia     | Middle Miocene                 | Moderate    | • Poorly preserved remains of nearshore marine foraminifers, bivalve mollusks and unidentified mammals. |
| Otay Formation         | Late Oligocene                 | High        | • Terrestrial vertebrates (e.g., tortoise, lizards, snake, birds, shrews, rodents, rabbit, dog, fox, rhinoceros, camels, mouse-deer, and oreodonts). |
| Sweetwater Formation   | Eocene                         | High        | • Dental remains of opossums, insectivores, and rodents.  
  • A few non-diagnostic mammal teeth. |
| Pomerado Conglomerate  | Middle Eocene                  | Moderate    | • Terrestrial mammals (e.g., insectivores, primates, rodents, protoreodonts, unidentifiable mammal bone fragments, and an unidentified artiodactyl, possibly a camelid).  
  • Nearshore marine mollusks (e.g., clams and snails). |
| Mission Valley Formation| Eocene                         | High        | • Marine microfossils (e.g., foraminifers), macroinvertebrates (e.g., clams, snails, crustaceans, and sea urchins).  
  • Marine vertebrates (e.g., sharks, rays, and bony fish).  
  • Petrified wood.  
  • Terrestrial mammals (e.g., opossums, insectivores, bats, primates, rodents,  
  • Artiodactyls and perissodactyls). |
<p>| Stadium Conglomerate (Upper) | Middle Eocene                  | Moderate    | • Fossil foraminifers, marine mollusks, opossums, insectivores, primates, rodents, carnivores, rhinoceros, and artiodactyls. |
| Stadium Conglomerate (Cypress Canyon) | Middle Eocene                  | High        | • Land mammals (e.g., opossums, insectivores, bats, primates, rodents, carnivores, tapirs, brontotheres, protoreodonts, and other artiodactyls). |</p>
<table>
<thead>
<tr>
<th>Region</th>
<th>Period</th>
<th>Sensitivity</th>
<th>Paleontology Resources Found</th>
</tr>
</thead>
</table>
| Stadium Conglomerate (Lower)   | Middle Eocene           | High        | * Sparse marine fossil remains.  
                             |                          |   * Terrestrial mammals (e.g., opossums, insectivores, primates, rodents, carnivores, and artiodactyls). |
| Friars Formation               | Middle Eocene           | High        | * Terrestrial vertebrates; especially terrestrial mammals (e.g., opossums, insectivores, primates, rodents, artiodactyls, and perissodactyls).  
                             |                          |   * Marine microfossils and macroinvertebrates.  
                             |                          |   * Fossil leaves. |
| Santiago Formation (Member C)  | Middle Eocene           | High        | * Vertebrate fossils: turtles, snakes, lizards, crocodiles, birds, and mammals (e.g., opossums, insectivores, primates, rodents, brontotheres, tapirs, protoreodonts, and other early artiodactyls).  
                             |                          |   * Marine organisms (e.g., calcareous nannoplankton and mollusks). |
| Santiago Formation (Member B)  | Middle Eocene           | High        | * Terrestrial vertebrates (e.g., insectivores, primates, rodents, brontothere, rhinoceros, and uintathere).  
                             |                          |   * Marine and estuarine mollusks. |
| Santiago Formation (Member A)  | Middle Eocene           | Moderate    | * Member "A" has yet to produce any fossils, but the discovery of any diagnostic fossils in this rock unit would be of great importance in resolving the age and stratigraphic significance of the Santiago Formation. |
| Ardath Shale                   | Middle Eocene           | High        | * The Ardath Shale has yielded diverse and well-preserved assemblages of marine microfossils (Bukry and Kennedy 1969; Gibson 1971; Steineck et al. 1972), macroinvertebrates (Hanna 1927; Givens and Kennedy 1979), and vertebrates (e.g., sharks, rays, and bony fish). |
| Torrey Sandstone               | Early Middle Eocene     | Moderate    | * The plant remains (mostly leaves).  
                             |                          |   * Invertebrate fossils primarily consist of nearshore marine taxa (e.g., clams, oysters, snails, and barnacles).  
                             |                          |   * Vertebrate fossil remains are rare and include teeth of crocodiles, sharks, and rays. |
| Delmar Formation               | Late early to early middle Eocene | High     | * Estuarine invertebrates (e.g., clams, oysters, and snails).  
                             |                          |   * Estuarine vertebrates (e.g., sharks and rays).  
                             |                          |   * Well-preserved skull remains of aquatic reptiles (e.g., crocodile) and terrestrial mammals (e.g., tillodont and early rhinoceros). |
| Mount Soledad Formation        | Late early to early middle Eocene | Moderate | * Marine organisms (e.g., mollusks, planktonic foraminifers, benthonic foraminifers, and pollen). |
| Unnamed Formation              | Early Eocene            | High        | * Dental remains of multituberculates, opossums, insectivores, primates, "condylarths," and rodents. |
### Geology/Paleontology

<table>
<thead>
<tr>
<th>Region</th>
<th>Period</th>
<th>Sensitivity</th>
<th>Paleontology Resources Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabrillo Formation</td>
<td>Late Cretaceous</td>
<td>Moderate</td>
<td>• Marine invertebrates (e.g., clams, snails, and ammonites).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Marine vertebrates (e.g., sharks).</td>
</tr>
<tr>
<td>Point Loma Formation</td>
<td>Late Cretaceous</td>
<td>High</td>
<td>• Marine invertebrates (e.g., clams, snails, nautiloids, ammonites, crabs, and sea urchins).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Marine vertebrates (e.g., sharks and mosasaurs).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Terrestrial plants (leaves and wood).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Dinosaurs, including armored dinosaur (nodosaur) and duck-billed dinosaur (hadrosaur).</td>
</tr>
<tr>
<td>Lusardi Formation</td>
<td>Late Cretaceous</td>
<td>Moderate</td>
<td>• Fragments of plant material.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• The Cretaceous age of this rock unit coupled with its terrestrial depositional setting suggest the potential presence of dinosaurs and other terrestrial vertebrates.</td>
</tr>
<tr>
<td>Older Quaternary Alluvial Fan Deposits</td>
<td>Late Pleistocene</td>
<td>Moderate</td>
<td>• Scattered vertebrate remains of late Pleistocene age.</td>
</tr>
<tr>
<td>Pauba Formation</td>
<td>Late Pleistocene</td>
<td>Moderate</td>
<td>• Terrestrial mammals (e.g., shrew, rabbit, kangaroo rat, gopher, mice, deer, pronghorn, camel, horse, and elephant).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Freshwater diatoms.</td>
</tr>
<tr>
<td>Temecula Arkose</td>
<td>Pleistocene</td>
<td>High</td>
<td>• Terrestrial mammals (e.g., rabbits, rodents, wolf, badger, bobcat, elephant, horse, camel, deer, and antelope).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Freshwater diatoms, snails, and gastropods.</td>
</tr>
<tr>
<td>Jacumba Volcanics</td>
<td>Early Miocene</td>
<td>Moderate</td>
<td>• Fossil bone fragments.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Identifiable fossils should eventually be found in these sediments.</td>
</tr>
<tr>
<td>Table Mountain Gravels</td>
<td>Early to Middle Eocene</td>
<td>High</td>
<td>• Terrestrial mammals (e.g., rodents and large hoofed mammals) including teeth (rabbit, camel), limb bones (unidentified artiodactyl), and miscellaneous bone fragments.</td>
</tr>
<tr>
<td>Brawley Formation</td>
<td>Early to Late Pleistocene</td>
<td>Moderate</td>
<td>• Lacustrine invertebrate fauna.</td>
</tr>
<tr>
<td>Ocotillo Conglomerate</td>
<td>Early Pleistocene</td>
<td>High</td>
<td>• Terrestrial vertebrates (e.g., turtle, bird, ground sloth, rabbit, rodents, wolf, bear, bobcat, lion, sabertooth cat, mammoth, zebra, horse, camel, llama, deer, antelope, and ox).</td>
</tr>
<tr>
<td>Borrego Formation</td>
<td></td>
<td></td>
<td>• Mollusks, ostracods, and rare foraminifers.</td>
</tr>
<tr>
<td>Canebrake Conglomerate</td>
<td>Late Pleistocene to Early Pleistocene</td>
<td>Moderate</td>
<td>• Has not yet yielded any fossils.</td>
</tr>
<tr>
<td>Palm Springs Formation</td>
<td>Late Pleistocene to Early Pleistocene</td>
<td>High</td>
<td>• Over 100 species of Plio-Pleistocene terrestrial vertebrates (e.g., turtles, snakes, lizards, hawk, eagle, vulture, ground sloth, shrews, rodents, mastodon, camel, llama, and horse).</td>
</tr>
</tbody>
</table>
Geology/Paleontology

<table>
<thead>
<tr>
<th>Region</th>
<th>Period</th>
<th>Sensitivity</th>
<th>Paleontology Resources Found</th>
</tr>
</thead>
</table>
| Imperial Formation | Late Miocene to   | High        | ▪ Over 200 species of marine fossils, (e.g., foraminifers, corals, clams, snails, ostracods, barnacles, crabs, sand dollars, and sea urchins).  
                           Early Pliocene     |             | ▪ Marine vertebrates (e.g., sharks, rays, bony fish, sea cow, baleen whale, and walrus). |
|                    |                   |             |                                                                    |
| Split Mountain     |                   | Moderate    | ▪ Marine microfossils such as foraminifers.                        |
| Formation          |                   |             |                                                                    |
| Alverson Volcanics | Middle Miocene    | Moderate    | ▪ Algae, pollen, petrified wood, mollusks, and a vertebrate bone fragment. |

Source: Deméré and Walsh 1993.

Regulatory Framework

Administrative actions have been implemented by local, state, and federal agencies to minimize the effects of such geologic hazards as earthquakes and landslides.

Slope instability or erosion problems in the county are primarily regulated through the Uniform Building Code (UBC) and the grading ordinances of the cities and county. The UBC requires special foundation engineering and investigation of soils on proposed development sites located in geologic hazard areas. These reports must demonstrate either that the hazard presented by the project will be eliminated or that there is no danger for the intended use. To minimize slide danger and erosion, a grading permit must be obtained for all major earth moving projects. All land-use jurisdictions have grading ordinances designed in part to assure that development in earthquake- or landslide-prone areas does not threaten human life or property.

Many of the country’s most slide-prone or erosion-prone areas occur along the coastal bluffs which are within the jurisdiction of the California Coastal Commission (CCC). In addition to protecting unique recreational and natural resources, the CCC requires evaluation of the geologic hazards associated with coastal development. The local geologic background and potential for geologic impacts are important components of the Local Coastal Programs which have been, or are in the process of being, prepared for each coastal jurisdiction.

The UBC contains design and construction regulations pertaining to seismic safety for buildings (Bonneville and Huissain 1997). These regulations cover issues such as the conversion of working stress to strength basis, ground motions, soil classifications, redundancy, drift and deformation compatibility, and designs of nonbuilding structures.
and nonstructural components. Recent improvements have been incorporated into the UBC in order to prevent structural collapse. One concept which has been utilized to improve upon conventional designs is that of increasing a structure’s ductility, which is the ability of a structure to absorb energy. Another key concept is inelastic response, in which engineers calculate the maximum inelastic response displacement to determine if a structures drift and deformation compatibility with a seismic event. New soil profile classifications have also been adopted to ensure that structural designs are compatible with the soil subsurface on which they are constructed. While these regulations and improvements are intended to minimize loss of life, they can not prevent all damage during a seismic event. However, these designs can greatly reduce the likelihood a structural collapse during a seismic event.

5.8.2 Methods of Analysis

This Program Environmental Impact Report (PEIR) has assessed the geological and paleontological changes associated with implementation of the Regional Comprehensive Plan (RCP) from a programmatic approach. Seismic and paleontological resource documents were also reviewed to determine if there will be impacts to regional geological/paleontological resources.

5.8.3 Significance Criteria

The RCP would have a potentially significant impact to geological or paleontological resources if the project would:

**Regional/Localized**

- Increase exposure of persons or property to geologic hazards such as earthquakes, unstable soils or geologic units, landslides, mudslides, ground shaking and ground failure, or similar hazards;

- Directly or indirectly destroy a unique paleontological resource or unique geologic feature.
5.8.4 Impact Analysis

Would the RCP increase exposure of persons or property to geologic hazards such as earthquakes, unstable soils or geologic units, landslides, mudslides, ground shaking and ground failure, or similar hazards?

Geology and Soils: Seismic Activity

Seismic activity includes earthquakes and ground-shaking events. The entire San Diego region is susceptible to impacts from seismic activity. Numerous active faults are known to exist in the region that could potentially generate seismic events capable of significantly affecting existing and proposed urban and rural development. As such, new development associated with the RCP would be exposed to both direct and indirect effects of earthquakes. Potential affects from surface rupture and severe ground shaking could cause damage ranging from minor to catastrophic to development associated with the RCP.

The region is predicted to experience strong earthquake-induced ground shaking during the 30-year planning scenario. Earthquakes within 60 miles of the San Diego region are capable of generating significant ground shaking, which could be generated along the San Clemente, San Diego Trough, Coronado Bank, Rose Canyon, Elsinore, and San Jacinto fault zones. The closest active fault is the Rose Canyon fault zone that crosses the I-5 corridor south of La Jolla. A major earthquake occurring on this fault or other regional active faults in the southern California area could subject development associated with the RCP to moderate to severe ground shaking.

Although seismic activity can cause damage to substandard construction, new designs can substantially reduce potential damage. Earthquake-resistant designs employed on new structures minimize the impact to public safety from seismic events. All projects are required to adhere to design standards described above and all standard design, grading, and construction practices to avoid or reduce geologic hazards. Regulatory agencies with oversight on development associated with the RCP have developed regulations and engineering design specifications to consider and compensate for site-level geologic and seismic conditions.

All site designs will be required to be reviewed by appropriate regulatory agencies prior to construction. Developments associated with the RCP will be required to employ design standards that consider seismically active areas and comply with the UBC. As a
result, implementation of the RCP will result in a less than significant impact from seismic events.

**Geology and Soils: Slope Failure**

Slope failure results in landslides and mudslides from unstable soils or geologic units. Portions of the RCP would be constructed through geologic formations susceptible to slope failure, thereby increasing the risk to people and facilities and creating a potentially significant impact. Site-specific geotechnical investigations would be required prior to construction in order to properly design all developments associated with the RCP. All projects are required to adhere to State of California design standards and all standard design, grading, and construction practices to avoid or reduce geologic hazards. Regulatory agencies with oversight on development associated with the RCP have developed regulations and engineering design specifications to consider and compensate for site-level geologic and seismic conditions. All site designs shall be reviewed and approved by the appropriate agencies. Incorporating design features into all developments associated with the RCP would minimize the risks associated with slope failure to a less than significant level.

*Would the RCP directly or indirectly destroy a unique paleontological resource or unique geologic feature?*

The implementation of the RCP would result in development occurring within geologic formations with moderate to high paleontological resource potential. This represents a potentially significant impact. At the project-specific level, paleontological surveys would be required to determine the resource value for areas traversed by improvements associated with the RCP. Monitoring by a qualified paleontological monitor at all project areas where any grading would occur in formations of moderate to high resource potential, as described in mitigation measure Paleo-1, would reduce impacts to below a level of significance.

### 5.8.5 Mitigation Measures

**Paleo-1**  
When a construction activity will significantly disturb the unweathered bedrock in areas identified as having a moderate or high potential to support paleontological resources, a qualified researcher must be stationed on site to observe grading operations and recover scientifically valuable specimens. A certified paleontologist shall be retained (or required to be retained) by the
project implementing agency prior to construction to establish procedures for surveillance and pre-construction salvage of exposed resources if fossil-bearing rock have the potential to be impacted. The monitor shall provide pre-construction coordination with contractors, oversee original cutting in previously undisturbed areas of sensitive formations, halt or redirect construction activities as appropriate to allow recovery of newly discovered fossil remains, and oversee fossil salvage operations and reporting. This measure shall be placed as a condition on all grading plans where grading is proposed in geologic units defined as having a moderate or high potential for containing fossils.

5.8.6 Summary of Impacts With Significance Conclusions

Geology and Soils: Seismic Activity

An earthquake occurring on a major fault in the southern California area could subject development associated with the RCP to moderate to severe ground shaking; however, this issue is less than significant because all projects are required, as standard practice, to incorporate design measures to avoid significant impacts.

Geology and Soils: Slope Failure

Portions of the RCP would be constructed through geologic formations susceptible to slope failure as described above, thereby, increasing the risk to people and facilities and creating a potentially significant impact; however, this issue is reduced to below a level of significance because all projects are required, as standard practice, to incorporate design measures to avoid significant impacts.

Paleontological Resources

The implementation of the RCP would result in development occurring within geologic formations with moderate to high paleontological resource potential, resulting in potentially significant impacts. Mitigation measure Paleo-1 would reduce this impact to below a level of significance.
5.9 HYDROLOGY/WATER RESOURCES

5.9.1 Existing Conditions

Regional Setting

Surface waters in the region include bays, lagoons, lakes, reservoirs, streams, and rivers (Figure 5.9-1). Many of these water bodies harbor a sensitive biotic community easily affected by added pollutant discharges; the quality of sensitive bodies of surface water varies. Certain reservoirs, particularly the Sweetwater Reservoir, have experienced high total dissolved solids (TDS) levels due to introduction of Colorado River water and high evaporation rates. Urban runoff carries pollutants to reservoirs, rivers, coastal lagoons, and bays. Typical pollutants include dissolved solids, nutrients such as nitrate and phosphate, organic materials, bacteria, heavy metals, pesticides, and toxic industrial wastes. Nutrient levels in the coastal lagoons have also increased due to fertilizer-laden runoff from agricultural lands. Sedimentation from unprotected construction sites is an additional water quality problem that is altering certain sensitive lagoons.

Section 303d of the Clean Water Act requires the State Water Resources Control Board (SWRCB) to compile a list of impaired water bodies throughout the state. The water bodies in the San Diego region which are listed as impaired include portions of the water bodies listed in Table 5.9-1.

Urbanization involving buildings, pavements, roofs, and generally any new impervious surface greatly increases the amount of water in the form of runoff entering the drainage system. Rainfall that would have been absorbed by vegetation and soil and cleansed through the natural filtration process is free to flow over the solid surface. Hence, further increasing the frequency and occurrence of flooding because of increases in peak flow velocities and levels. San Diego often experiences prolonged dry periods, punctuated by infrequent wet periods of a year or two year duration. The average yearly rainfall in coastal San Diego areas is 10 inches per year. Table 5.9-2 shows the average yearly rainfall, based on a water year (October-September), for 1964 thru 2002. A wet year is defined as having a yearly average above 10 inches. Wet periods have included 1966-1967, 1969, 1973, 1975-1976, 1978-1980, 1982-1983, 1986, 1988, 1991-1993, 1998, and 2000. Much of the development in the San Diego region has taken place during the extended dry periods. Residential development has occurred within many of the region’s natural watersheds. This construction directly increases the potential for flood damage.
Table 5.9-1
List of Impaired Water Bodies

<table>
<thead>
<tr>
<th>Water Body</th>
<th>Pollutant/Stressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agua Hedionda Lagoon</td>
<td>Bacterial Indicators, Sedimentation</td>
</tr>
<tr>
<td>Aliso Creek</td>
<td>Bacterial Indicators, Phosphorus, Toxicity</td>
</tr>
<tr>
<td>Buena Vista Lagoon</td>
<td>Bacterial Indicators, Nutrients, Sedimentation</td>
</tr>
<tr>
<td>Chollas Creek</td>
<td>Bacterial Indicators, Cadmium, Copper, Lead, Diazinon, Zinc</td>
</tr>
<tr>
<td>Cloverdale Creek</td>
<td>Phosphorus, Total Dissolved Solids</td>
</tr>
<tr>
<td>Famosa Slough and Channel</td>
<td>Eutrophic</td>
</tr>
<tr>
<td>Felicita Creek</td>
<td>Total Dissolved Solids</td>
</tr>
<tr>
<td>Green Valley Creek</td>
<td>Sulfate</td>
</tr>
<tr>
<td>Guajome Lake</td>
<td>Eutrophic</td>
</tr>
<tr>
<td>Hodges Reservoir</td>
<td>Color, Nitrogen, Phosphorus, Total Dissolved Solids</td>
</tr>
<tr>
<td>Kit Carson Creek</td>
<td>Total Dissolved Solids</td>
</tr>
<tr>
<td>Loma Alta Slough</td>
<td>Eutrophic, Bacterial Indicators</td>
</tr>
<tr>
<td>Los Peñasquitos Lagoon</td>
<td>Sedimentation</td>
</tr>
<tr>
<td>Mission Bay</td>
<td>Eutrophic, Bacterial Indicators, Lead</td>
</tr>
<tr>
<td>Pacific Ocean Shoreline</td>
<td>Bacterial Indicators</td>
</tr>
<tr>
<td>Rainbow Creek</td>
<td>Nitrogen, Phosphorus</td>
</tr>
<tr>
<td>San Diego Bay</td>
<td>Bacterial Indicators, Chlorade, Copper, Degraded Benthic Comm., Lindade, Mercury, PAHs, PCBs, Sediment Toxicity, Zinc</td>
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<tr>
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<td>Fecal Coliform, Dissolved Oxygen, Phosphorus, Total Dissolved Solids</td>
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<tr>
<td>San Elijo Lagoon</td>
<td>Eutrophic, Bacterial Indicators, Sedimentation</td>
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<td>San Luis Rey River</td>
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<td>Sutherland Reservoir</td>
<td>Color</td>
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<td>Tecolote Creek</td>
<td>Bacterial Indicators, Cadmium, Copper, Lead, Toxicity, Zinc</td>
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<tr>
<td>Tijuana River</td>
<td>Bacterial Indicators, Low Dissolved Oxygen, Eutrophic, Pesticides, Solids, Synthetics Organics, Trace Elements, Trash</td>
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<tr>
<td>Tijuana River Estuary</td>
<td>Bacterial Indicators, Eutrophic, Lead, Nickel, Pesticides, Thallium, Trash, Dissolved Oxygen</td>
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Source: RWQCB 2002
### Table 5.9-2
Average Yearly Rainfall in San Diego

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<thead>
<tr>
<th>Year</th>
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<table>
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<tr>
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<th>Average Yearly Rainfall (inches)</th>
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<tr>
<td>2002</td>
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Source: SDCWA 2004a

### Regulatory Framework

Federal, state, and regional agencies are responsible for regulating water quality and managing both point and nonpoint sources of pollutants. Section 402 of the Clean Water Act controls water pollution through the National Pollutant Discharge Elimination System (NPDES), by regulating point sources that discharge pollutants into waters of the U.S. Implementation of the act is the responsibility of the Environmental Protection Agency (EPA), which has delegated much of that authority to state and regional agencies. The EPA and U.S. Army Corps of Engineer (ACOE) also review and permit proposed discharges or dredging in Waters of the U.S., including wetlands, under the Clean Water Act.

In accordance with the California Porter-Cologne Water Quality Control Act of 1969, the SWRCB and nine Regional Water Quality Control Boards (RWQCB) impose requirements on water pollution discharge; establish ocean, surface water, and groundwater quality objectives based on current or potential beneficial uses; manage the
NPDES in California; and regulate waste discharges. Each regional board is required to adopt a Water Quality Control Plan or Basin Plan. The document for the development portion of the San Diego region, prepared by Region 9, is the Water Quality Control Plan for the San Diego Basin. The eastern, much less developed desert part of the San Diego region is within the Colorado River Basin. That basin boundary is generally at the peak of the Laguna Mountains, so water flowing west to the coast is within the San Diego Basin and water flowing east to the desert is within the Colorado River Basin.

The San Diego Basin plan has four major components: (1) designated beneficial use is for surface and groundwater; (2) set numerical and narrative objectives that must be attained or maintained; (3) describe implementation programs to protect the beneficial uses of all water in the basin; (4) describe surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan (RWQCB 1994).

Construction activities that disturb one or more acres of land that could impact water resources must comply with the requirements of the SWRCB’s Construction General Permit, 99-08-DWQ. To comply with this permit, the applicant for a construction permit must file a complete and accurate Notice of Intent with the SWRCB. Compliance requires conformance with applicable best management practices (BMPs) and development of a Storm Water Pollution Prevention Plan (SWPPP), plus development of a monitoring program plan that would prevent construction pollution from contacting storm water. The intent is to keep all erosion from moving off site and into receiving waters. The SWPPP requires an erosion control plan for newly graded areas and permanent facilities for long-term water quality control such as grass swales. Ordinances have been established county-wide which require stabilization and revegetation of ground disturbed by grading and require special erosion control measures and monitoring. The requirements often include the preparation of a grading plan which incorporates BMPs for runoff and erosion control such as catchment basins, filtration traps, energy dissipating measures, berms, sandbags, and hay bales.

Compliance with the RWQCB’s NPDES Permit No. 108758, Waste Discharge Requirements for Discharges of Urban Runoff from Municipal Separate Storm Water Systems Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, and the San Diego Unified Port District, which was updated in February 2001, requires that all jurisdictions within the San Diego region prepare Jurisdictional Urban Runoff Management Plans (JURMPs). Each JURMP must contain a
component addressing construction activities and a component addressing existing development.

Executive Order 11988, Floodplain Management, was issued in 1997. The major requirements of this federal order are to avoid support of floodplain development; to prevent uneconomic, hazardous, or incompatible use of floodplains; to protect and preserve the natural and beneficial floodplain values; and to be consistent with the standards and criteria of the National Flood Insurance Program (NFIP).

The basic tools for regulating construction in potentially hazardous floodplain areas are local zoning techniques. Proper floodplain zoning can be beneficial in the preservation of open space, retention of floodplains as groundwater recharge areas, and directing of development to less flood-prone areas. No further construction without engineered flood protection has been permitted in the area since July 1976, when all jurisdictions in the region were certified as participants in the NFIP.

The County Department of Sanitation and Flood Control and the engineering departments of the incorporated areas are responsible for designing, constructing, and maintaining flood control facilities in their respective jurisdictions. These responsibilities include the evaluation of proposed construction projects with regard to their potential to increase flood hazard.

**Water Pollutant Sources**

Sources of pollutants can be classified as two types: nonpoint and point sources. Pollutants from these two types of sources tend to be different composition and require different types of management. These are described below.

**Nonpoint Sources**

Nonpoint sources are those sources of water pollutants which do not discharge to a watercourse from a pipe. Nonpoint sources are typically diffused and generally cannot be treated in the same manner as point sources. Section 208 of the 1972 Clean Water Act requires comprehensive area wide planning and management to control nonpoint source pollution from urban and rural land.
Previous pollution control efforts have largely concentrated on point source discharges, such as municipal and industrial wastes. Nonpoint sources, however, have been suspected of causing significant water quality problems. In urban areas, the stormwater runoff from streets likely carries considerable quantities of harmful materials, such as oil, rubber, metals (including lead), pathogens, trash, and other solids. In addition, increased peak flows from roadway runoff can also alter the hydraulics of an area by scouring and transporting and depositing sediments in areas lower than the runoff source. In agricultural areas, the fate of pesticides and nutrients in surface runoff is not fully understood.

As discussed under the Regulatory setting, the RWQCB’s NPDES Permit No. 108758 directs NPDES co-permittees to develop programs to manage and control urban runoff. Co-permittees are required to develop a JURMP, which include best management practices, either as source control to reduce the loading and transport of pollutants in runoff; or as treatment methods to reduce the pollutant loading prior to discharge to a water body. Co-permittees must regulate non-point source pollutants from commercial, industrial, municipal, and residential sources. Co-permittees in San Diego County include the 18 local jurisdictions, the unincorporated county, Caltrans, and other regional authorities.

**Point Sources**

Point sources of water pollutants are defined as sources from which wastewater is transmitted in some type of conveyance (pipe and channel) to a water body, and are classified as municipal or industrial sources. Municipal point sources consist primarily of domestic treated sewage and processed water.

Water pollution from industrial point sources is controlled through discharge requirements prepared by the RWQCB. Industrial point sources are primarily from such operations as sand and gravel extraction; livestock and dairy operations; trailer park, park, and camp development; electrical power generation; metal plating and printed circuitry etching; operations associated with ship building and repair; and wastes from federal, commercial, and recreational vessels. An industrial pretreatment program requires all industries to remove industrial pollutants prior to discharge into the domestic water system.
Amendments to the Clean Water Act in 1987 broadened the scope of the NPDES program. In 1990, EPA published regulations making point source discharges from stormwaters from industrial and construction activities subject to NPDES under federal stormwater effluent guidelines. The NPDES permits are issued by the RWQCB and require development and implementation of programs to identify and eliminate illegal discharges of pollutants and monitoring reporting programs. The industrial and construction permits fall under a general permit issued by the SWRCB. Transportation facilities are included under the industrial permit requirements.

**Ground Water**

Public water agencies within the San Diego County Water Authority (SDCWA) service area currently use about 18,000 acre-feet of groundwater annually. In addition, private well owners also draw on local basins for their water supplies. The amount of groundwater pumped from private wells, both within the SDCWA service area and outside of the SDCWA service area in eastern San Diego County, is suspected to be significant, but has not to date been accurately quantified for the region.

Groundwater supplies within San Diego County are limited by both the geology and the semi-arid hydrologic conditions of the region. Narrow river valleys with shallow alluvial deposits are characteristic of many of the more productive groundwater basins. Outside of these alluvial basins, much of the geology consists of fractured crystalline bedrock and fine-grained sedimentary deposits that are generally capable of yielding only small amounts of groundwater to domestic wells. Although groundwater supplies are less plentiful in the San Diego region than in some other areas of Southern California, such as the Los Angeles Basin, sufficient undeveloped supplies do exist to help to meet a portion of the region’s future water needs.

Several agencies within the SDCWA service area have identified potential projects that could increase groundwater production to close to 60,000 acre-feet by the year 2020. The types of groundwater projects fall into three basic categories. The first, groundwater extraction and disinfection projects, are generally located in basins with higher water quality levels where extracted groundwater requires minimal treatment for use as a potable water supply. The second, brackish groundwater recovery projects are typically implemented in basins that have been impacted by imported water irrigation or by seawater intrusion. These types of projects use desalination technologies, such as reverse osmosis (RO), to treat extracted groundwater to potable water standards. The final

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Table 5.9-3

<table>
<thead>
<tr>
<th>San Diego County Water Authority Service Area</th>
<th>Implementing Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Ysidora, Chappo, and Upper Ysidora (Santa Margarita River Basin)</td>
<td>Source: SDCWA 2004b</td>
</tr>
<tr>
<td>Mission, Bonsall, Pala, and Pauma basins (San Luis Rey River Basin)</td>
<td></td>
</tr>
<tr>
<td>San Diego, San Pasqual, and Santa Maria Valley Basins (San Diego River Basin)</td>
<td></td>
</tr>
<tr>
<td>Mission Valley and Santee/El Monte Basins (San Diego River Basin)</td>
<td></td>
</tr>
<tr>
<td>Lower Sweetwater and Middle Sweetwater basins (Sweetwater River Basin), and Lower Tijuana River Valley basin (Tijuana River Basin)</td>
<td></td>
</tr>
</tbody>
</table>

In addition to these shallow alluvial aquifers with total ground water stores estimated to exceed 700,000 acre-feet, another deeper aquifer has been identified and recently delineated in the southwester portion of the county known as the San Diego Formation. This aquifer is comprised of a thick accumulation of older, semi-consolidated alluvial sediments and is it is believed that it could have a storage capacity of as much as 120,000 to 240,000 acre-feet with appropriate engineering design (SDCWA, 2004b).

Groundwater in the San Diego region can be used for a number of beneficial uses, including municipal and domestic uses, agricultural uses, industrial service supply, industrial process supply, ground water recharge, and freshwater replenishment (RWQCB, 1994). The vast majority of ground water development within the region has been utilized for municipal and agricultural purposes, while some ground water has been utilized for industrial uses, such as gravel and sand washing. Ground water basins utilized for supplying water to a lake or stream have been designated for freshwater replenishment, while other hydrologic units used for recharging other hydrologic units have been designated as ground water recharge. Existing groundwater projects are described in Table 5.9-3.
category, groundwater recharge and recovery projects, improve groundwater basin yields by supplementing natural recharge sources with potable or possibly recycled water.

Potential Flood Hazards

The Federal Emergency Management Agency (FEMA) has outlined the floodplains for the major water bodies in the region. This designation is determined by predicting the amount of discharge associated with a 50-year and 100-year flood. A 50-year flood refers to a flood level with a statistical occurrence probability of two percent in any given year; a 100-year flood has a one percent probability of occurrence in any given year. Floodplain mapping is an ongoing process in the county; such maps must be regularly updated for both major rivers and tributaries as land uses and development patterns change. Maps of floodplains can be obtained at the FEMA flood map store (http://www.fema.gov/).

Major water bodies located in proximity to potential target areas for the RCP include the Santa Margarita River, San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River, Otay River, Tijuana River, Buena Vista Lagoon, Agua Hedionda Lagoon, Batiquitos Lagoon, San Elijo Lagoon, Los Penasquitos Lagoon, Tecolote Creek, and Lake Hodges (SanGIS, 2004). The San Diego, Tijuana, San Dieguito, and Santa Margarita rivers experience flooding that impacts roadways and vehicular circulation. Flooding typically affects local streets and roads, but some regional arterials can also be impacted.

5.9.2 Methods of Analysis

This PEIR has assessed the changes to hydrology and water resources due to implementation of the RCP from a programmatic approach. Future development associated with the RCP was considered in terms of existing resources and existing regulations.

5.9.3 Significance Criteria

The RCP would have a potentially significant hydrology/water resources impact if the project would:
Regional

- Violate any regional, State, or federal water quality standards or waste discharge requirements;

- Provide additional sources of polluted runoff that would violate water quality standards;

- Deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the groundwater table;

- Alter drainage patterns, including through the alteration of the course of a stream or river in a manner that would result in increases in erosion or siltation in the region; and

- Increase flood hazards by:
  - placing housing or other structures in a 100-year flood plain;
  - impeding or redirecting flood flows;
  - increasing populations in areas subject to flooding as a result of levee or dam failure; or
  - increasing populations in areas subject to inundation by seiche, tsunami, or mudflow

Localized

- Contribute runoff that would exceed the capacity of existing or planned local stormwater drainage systems.

5.9.4 Impact Analysis

Would the RCP violate any regional, State, or federal water quality standards or waste discharge requirements?

All regional, State, and federal water quality standards are currently implemented through the SWRCB. These standards have been set to control both point and nonpoint sources of water pollution. Development associated with the RCP will potentially increase the
amount of pollutants entering water resources within the region. However, all development associated with RCP would be required to conform to the water quality standards and waste discharge requirements enforced by the SWRCB. This would include applying for and complying with NPDES and storm water permits, all relevant sections of the Clean Water Act, and all other relevant standards and regulations. Furthermore, the RCP will encourage and support regional planning efforts aimed at improving water quality while adhering to all relevant water quality standards. Therefore, implementation of the RCP will not violate any applicable regional, State, or federal water quality standards or waste discharge requirements, and would have a less than significant impact.

Would the RCP provide additional sources of polluted runoff that would violate water quality standards?

Development associated with the RCP could cause erosion due to exposed graded surfaces, excavation, stock piling, or boring, and would potentially contribute to the sediment load in surface waters. Deposition of sediments downstream may be significant if they are introduced into a potable water supply (reservoirs), flood control channels, or wetlands. Increased deposition of sediments into water bodies can result in increased turbidity, clog streambeds, degrade aquatic habitat, and interfere with flow. New impervious surfaces would also increase runoff quantities and velocities during rainstorms, resulting in increased sedimentation. For these reasons, even projects not located directly adjacent to, or crossing a sensitive area, could create additional sources of polluted runoff and would constitute a significant impact.

Development associated with the RCP would result in increased impervious surfaces. These impervious surfaces would result in increased runoff, adding to local non-point source pollution. Chemical pollutants contained in runoff would be primarily attributable to motor vehicles, which contribute particulate materials from fuel combustion, petroleum products, metals, rubber, and asbestos to roadway pollutants. In addition, a potential would exist for biologically active chemicals such as herbicides and fertilizers and fecal matter from pets and wildlife to contribute pollutants. These pollutants accumulate on paved surfaces and adjacent areas; rain flushes the pollutants into storm drains and into natural drainages, and they are eventually deposited into the aquatic environment (i.e., lagoons, rivers, and lakes). Therefore, additional impervious surfaces created by the RCP could create additional sources of polluted runoff and constitute a significant impact.
Would the RCP deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the groundwater table?

Only a small portion of the San Diego region is underlain by permeable geologic formations that can accept, transmit, and yield appreciable amounts of groundwater. The majority of the ground water in the region has been extensively developed, leaving a limited amount potential ground water available for potential future uses (RWQCB, 1994). Therefore, increased demand for ground water resources created by implementation of the RCP could significantly impact existing ground water resources.

Would the RCP alter drainage patterns, including through the alteration of the course of a stream or river in a manner that would result in increases in erosion or siltation in the region?

Implementation of the RCP is anticipated to intensify density in predominantly urbanized areas, as opposed to rural areas. Therefore, implementation of the RCP would have minimal impacts on existing drainage patterns. Generally, drainage patterns have been modified or established as a result of urbanization throughout San Diego County’s history of development. However, some development associated with the RCP, particularly transportation improvement projects, will have impacts on existing drainage patterns. Impacts to both upstream and downstream resources can result from alterations to streams, rivers, and floodways, such as construction of bridge pilings in streambeds. The introduction of new or expanded bridge pilings can cause scouring and changes in the transportation and deposition of sediment both upstream and downstream. In turn, this can potentially affect water quality and biological resources that depend on riparian habitat.

However, development associated with the RCP, will have to comply with all existing regulations pertaining to existing drainage patterns. Development associated with the RCP that could potentially alter drainage patterns would be required to implement design measures to maintain pre-construction flow patterns. Projects that would divert the flow of water from one basin onto another would be required to utilize detention basins that would capture the water from the impacted basin. The detention basin would then slowly release this water into the new drainage basin at a velocity that was low enough to not drastically alter the flow of that drainage basin and thus prevent the drainage pattern from
causing erosion and siltation. Therefore implementation of the RCP would not significantly alter existing drainage patterns.

Siltation could also occur as a result of shoreline preservation activities during beach nourishment. SANDAG is currently implementing the San Diego Regional Beach Sand Project in which local beaches are being replenished with sand dredged from offshore borrow sites. Although the project will meet its goal of replenishing beaches that have lost sand over the years to erosion, the potential exists for sand placed on the beaches to be transported by currents and cause siltation. This process would have the potential to create turbidity, impact existing marine biological resources, and cause mouth closures at local lagoons. Turbidity impacts are expected to be short term and not significant. However, impacts to marine resources and mouths of local lagoons may be significant and are thus currently being monitored. If impacts to marine resources are found to be significant, restoration of habitat at a 1:1 ratio will be required. If impacts to mouths of local lagoons are found to be significant, funding will be provided to allow for sediment removal or an additional mouth opening. Implementation of these mitigation measures, if required, will reduce impacts associated with beach nourishment activities to below a level of significance.

**Would the RCP increase flood hazards by:**

- Placing housing or other structures in a 100-year flood plain;
- Impeding or redirecting flood flows;
- Increasing populations in areas subject to flooding as a result of levee or dam failure; or
- Increasing populations in areas subject to inundation by seiche, tsunami, or mudflow?

Development associated with the RCP that significantly increases a watershed’s impervious paved surfaces or which are constructed in floodplains have a potential for incrementally increasing flood hazards to both adjacent and downstream development. However, all drainage designs will be made to conform to the flood control requirements of the applicable jurisdiction. An example of the requirements stipulated by an applicable jurisdiction would be the following from the County of San Diego (1998). All development that would take place within the jurisdiction of the County of San Diego would be required to conform to latest County of San Diego Flood Control Hydrology Manual and Drainage Manual and the requirements of the County Engineer. Public drainage facilities shall be designed to carry the ten-year, six-hour storm underground,
the 50-year, six-hour storm between the top of curbs, and the 100-year, six-hour storm between the right of way lines. All culverts will be designed to accommodate a 100-year six-hour storm. The type of drainage facility will be selected based on the adaptability of the proposed land use and concentrated drainage from lots or areas 0.5 acres or greater shall not be discharged to County streets without approval of the County Engineer. Implementation of these design measures with development associated with the RCP would reduce flood impacts related to impervious surfaces to below a level of significance.

Development associated with the RCP that would be located within existing floodplains would have the potential to be impacted by floods during heavy rain events. However, existing regulations require that a local hydraulic study and risk assessment be performed where a planned facility or action would encroach on a base floodplain or support incompatible floodplain development. When the hydraulic study indicates significant encroachment, this development would then be required to incorporate design measures such as the storm drain requirements and drainage pattern flow controls discussed previously to prevent flood events from impacting developments associated with the RCP that would be located within existing floodplains. These design measures would reduce potential flood impacts to below a level of significance.

**Would the RCP contribute runoff that would exceed the capacity of existing or planned local stormwater drainage systems?**

Implementation of the RCP and its goal of increasing density could potentially increase the amount of impervious surfaces. Increasing the amount of impervious surfaces would result in a larger amount of runoff reaching the existing local stormwater drainage system. Because the existing system was designed for current conditions, the increase in impervious systems and use of the existing system may cause some inadequacies in the system to occur and constitute a significant impact. In the event that inadequacies in the system occur, localized improvements will be required.

**5.9.5 Mitigation Measures**

The following mitigation measures can reasonably be expected to be a part of the design and construction associated with the RCP.

Water -1 In areas where habitat for fish and other wildlife would be threatened by development, alternate drainageways shall be sought to protect sensitive
High and wildlife populations. Heavy-duty sweepers, with disposal of collected debris in sanitary landfills, shall be used to effectively reduce annual pollutant loads. Catch basins and storm drains shall be cleaned and maintained on a regular basis.

Water -2 Development shall be designed to incorporate stormwater improvements, both off and on site, that are implemented concurrently with the additional impacts created by developments associated with the RCP.

Water -3 Project proponents would be required to employ measures that may include decreasing water demand for the project or reducing water use elsewhere in the same groundwater basin as determined by the local agency. Water districts relying upon groundwater may incorporate groundwater recharge or other types of safe yield strategies to maintain adequate groundwater table elevations.

5.9.6 Summary of Impacts With Significance Conclusions

Water Quality Standards

Because all future development would be required to adhere to water quality standards in effect at the time of development, implementation of the RCP would result in a less than significant water quality impact at the program level.

Additional Sources of Runoff/Erosion

Development associated with the RCP could cause erosion due to exposed graded surfaces, excavation, stock piling, or boring, and would potentially contribute to the sediment load in surface waters potentially creating significant impacts. Implementation of mitigation measures Water-1 and Water-2 would reduce this impact to below a level of significance.

Additional Sources of Runoff/Impervious Surfaces

Development associated with the RCP would result in increased impervious surfaces that would allow pollutants to accumulate on paved surfaces that would be flushed down storm drains and into the aquatic environment (i.e., lagoons, rivers, and lakes). This
would constitute a significant impact. Implementation of mitigation measures Water-1 and Water-2 would reduce this impact to below a level of significance.

**Groundwater**

Increased demand for ground water resources created by implementation of the RCP could significantly impact existing ground water resources. Implementation of mitigation measure Water-3 would reduce this impact to below a level of significance.

**Drainage Pattern Alterations**

Impacts associated with alterations to streams, rivers and floodways would be reduced to below a level of significance through the incorporation of design measures such as detention basins that would bring developments associated with the RCP into conformance with existing regulations pertaining to drainage patterns.

**Flood Hazards**

Development associated with the RCP that increases a watershed’s impervious paved surfaces or which are constructed in floodplains have a potential for incrementally increasing flood hazards to both adjacent and downstream development. However, as noted previously, adherence to existing regulations would reduce those imparts to below a level of significance.

**Local Stormwater Drainage Systems Capacity**

Increased runoff resulting from developments associated with the RCP could overwhelm the existing local stormwater drainage systems. This is a significant impact that will require mitigation at the project level. Implementation of mitigation measures Water-1 and Water-2 will reduce this impact to below a level of significance.
5.10 BIOLOGICAL RESOURCES

5.10.1 Existing Conditions

Regional Overview

The influences of climate, topography, and soils combine to determine the character of the biological environment of a region. Each of these factors varies greatly throughout San Diego, resulting in a diversity of vegetation communities which include coastal wetlands, grasslands, vernal pools, sage scrub, chaparrals, riparian woodlands, oak woodlands, coniferous forests, and creosote bush scrub. At least 50 different plant communities are known to occur (Oberbauer 1991).

Three general physiographic regions are found within the San Diego region: coastal, montane, and desert. The coastal region occurs at elevations generally below 3,500 feet. It encompasses that area along the immediate coastline of the Pacific Ocean as well as the most easterly mesa and interior foothills. The montane region occurs at elevations of about 3,500 feet to a maximum of 6,500 feet and includes the major mountain systems of the peninsular range which occur in the county: San Ysidro, Cuyamaca, Volcan, Laguna, and Vallecitos. The Colorado Desert region is found to the east of the montane region at elevations from sea level to approximately 3,000 feet. The generalized location of the natural habitats within San Diego County is shown in Figure 5.10-1, as well as the areas currently developed or used for agriculture.

Sensitive Resources

The San Diego region contains habitats and species that are considered to be sensitive by state and federal agencies, affected local jurisdictions and conservation organizations. The San Diego region has been identified as a major “hot spot” for biodiversity and species endangerments. Many unique and endangered species are found only in this region. The region continues to grow. This combination of high biodiversity, large numbers of rare and unique species, and urbanization has led to intense conflicts among economic growth, biological conservation, and quality of life.

To resolve these conflicts, the San Diego region has established a solution for reconciling the need to preserve the region’s natural resources and valuable habitats while maintaining and advancing economic prosperity. The region’s 18 cities, the County government and SANDAG are creating a regional preservation system based on the characteristics of habitat rather than jurisdictional boundaries. This unique alliance is
possible because of a partnership between the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) where the federal and state endangered species acts are regulated under the umbrella of the State of California’s Natural Community Conservation Planning (NCCP) Act of 1991. Each city and the county seeking permits to “take” listed threatened or endangered species have prepared or are in the process of preparing Habitat Conservation Plans (HCP) pursuant to Section 10 (a)(1)(B) of the federal Endangered Species Act (ESA), as well as an NCCP plan under the NCCP Act and the California Endangered Species Act (CESA). “Take authorizations” thus issued by the wildlife agencies allow for otherwise lawful actions such as development that may incidentally take or harm individuals of a species or its habitat (generally outside of the preserve system) in exchange for conserving the species inside the preserve system. A jurisdiction that is issued a take authorization, referred to as a “take authorization holder,” may share the benefits of that authorization by using it to permit public or private projects that comply with the HCP and the jurisdiction’s subarea plan. The conservation and management responsibilities, assurances of implementation, and corresponding authorizations for all parties will be contained in an implementing agreement between each take authorization holder (a jurisdiction) and the wildlife agencies. Generalized habitat conservation planning areas (adopted and planned) within San Diego County are shown on Figure 5.10-2.

Completion of a HCP and a subsequent subarea plan will allow the wildlife agencies to issue take authorizations to the local jurisdiction. Participating jurisdictions can then provide take authorizations for public or private projects, so long as the projects comply with the guidelines established in the HCP and the subarea plans. Hence, the HCPs can fulfill the current mandatory requirements under the ESA and CESA. Until such time, the ESA and the CESA have regulatory authority over sensitive species in the San Diego region.

For the purposes of this Program Environmental Impact Report (PEIR), a list of sensitive species in the San Diego region was compiled from multiple sources, including the HCPs California Natural Diversity Data Base (CNDDB). The CNDDB contains species which are listed, are proposed, or are candidates for listing as threatened or endangered by the USFWS or by the CDFG as endangered, threatened, or rare. The CNDDB also contains species within the California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlik 1994). The sensitive species list also contains certain species called out by local conservation planning documents. Sensitive habitat types are those which are identified by the CNDDB in its
Figure 5.10-1
VEGETATION

- Natural Habitats
- Agriculture
- Developed
- Not Mapped

SANDAG
Figure 5.10-2
HABITAT CONSERVATION PLANNING AREAS
San Diego Region
Preliminary Descriptions of the Terrestrial Natural Community of California (Holland 1986) or are considered to be endangered, threatened, or rare by state and federal resources agencies, local jurisdictions or specialists. Table 5.10-1 identifies the sensitive habitat types documented to occur within the San Diego region. Approximately 145 sensitive animals and 165 sensitive plants are known to have distributions within San Diego.

| Table 5.10-1 |
| Sensitive Habitat Types in the San Diego Region |
| Southern coastal bluff scrub | Southern coast live oak riparian forest |
| Maritime succulent scrub | Southern arroyo willow riparian forest |
| Diegan coastal sage scrub | Southern cottonwood-willow riparian forest |
| Southern mixed chaparral (with the occurrence of sensitive species) | Southern sycamore-alder riparian woodland |
| Southern maritime chaparral | Desert fan palm oasis woodland |
| Coastal sage-chaparral scrub | Southern willow scrub |
| Native grassland | Mule fat scrub |
| Non-native grassland (with the occurrence of sensitive species) | Black oak woodland |
| San Diego mesa hardpan vernal pool | Coast live oak woodland |
| San Diego mesa claypan vernal pool | Englemann oak woodland |
| Southern coastal salt marsh | California live oak woodland |
| Coastal brackish marsh | Elephant tree woodland |
| Coastal and valley freshwater marsh | Torrey pine forest |
|  | Southern interior cypress forest |

Wildlife Corridors

Wildlife corridors are integral to the preservation of sensitive plant and animal species and corridors themselves can be considered valuable, therefore they are an integral component of the HCPs. Wildlife corridors can be defined as a linear landscape feature of sufficient width and buffer to allow movement between two patches of undisturbed habitat, or between patches of habitat with some vital resources. Regional corridors are defined as those linking two or more large areas of natural open space, and local corridors are defined as those allowing resident animals to access critical resources (food, cover and water) in smaller areas that might otherwise be isolated by urban development.
Regulatory Implications

Natural resources are protected under the mandates of numerous federal, state and local jurisdictional laws, regulations, and ordinances and these must be considered in the early planning stages of any project. Future projects implemented under the Regional Comprehensive Plan (RCP) will be required to adhere to the regulation requirements. Those pertinent to the RCP are described below.

Federal

**Endangered Species Act (ESA).** The ESA provides for the conservation of federally listed threatened and endangered species and the ecosystems on which they depend, by prohibiting “take” of species by public agencies or private interests. If a project implemented as a function of the RCP has the potential to take a federally listed species, the project will need to adhere to the appropriate requirements. Section 7 of the ESA requires that federal agencies, in consultation with the USFWS and the National Marine Fisheries Service (NMFS), use their authorities to further the purposes of the act by taking those actions necessary to ensure that any action authorized, funded, or carried out by the federal agency is not likely to jeopardize the continued existence of endangered or threatened species. Under Section 10(a) of the ESA, the USFWS is authorized to issue permits to allow the incidental take of species listed as federally threatened or endangered. Incidental take permits are allowed under Section 10(a) as long as the jurisdiction has an approved habitat conservation plan. Finally, Section 4(d) of the ESA requires the USFWS to put in place protective measures that prevent further damage to a threatened species.

**Clean Water Act.** Section 404 of the act authorizes the U.S. Army Corps of Engineers (ACOE) to issue permits governing the discharge of dredged or fill materials into the waters of the United States. Section 401 of the act requires that projects requiring a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States obtain certificate from the Regional Water Quality Control Board (RWQCB) in addition to the federal license or permit. In addition, 404 permits also require consultation with the USFWS under Section 7 of the ESA if the action may affect listed species. If a project implemented as a function of the RCP has the potential to impact waters of the United States, the project will need to adhere to the appropriate requirements.
Biological Resources

**State of California**

**California Endangered Species Act (CESA).** This act provides for the conservation of state listed threatened, endangered, and candidate species. The act requires that state agencies, in consultation with the CDFG, use their authority to further the purpose of the act by taking those actions necessary to ensure that any action authorized, funded, or carried out is not likely to jeopardize the continued existence of endangered or threatened species. If a project implemented as a function of the RCP has the potential to impact a state listed, threatened, endangered or candidate species, the project will need to adhere to the appropriate requirements.

**Natural Community Conservation Plan (NCCP).** In 1991, Sections 2800-2835 were added to the California Department Fish and Game Code to provide for the preparation and approval of multiple species conservation plans under the NCCP. These plans are intended to preserve local and regional biological diversity, reconcile urban development and wildlife needs, and meet the objectives of both the state and federal endangered species acts. If a future project is implemented as a function of the RCP consistency with the applicable NCCP subarea plan will be considered.

Since two of the goals of the RCP are to “focus future population and job growth away from rural areas . . . “ and “preserve and maintain natural biological communities and species native to the region”, the NCCP and its subsequent subarea plans are integral to the implementation of the RCP.

**Local Jurisdictions’ Efforts**

Implementing the NCCP requires preparation of subregional and subarea plans. To date, two subregional plans have been adopted – the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP) and eight subarea plans have been adopted. These plans are important as they specify how local land use authority will be used to conserve habitat and build the preserve. They provide a regulatory framework for streamlining the development permit process while protecting biological resources.
5.10.2 Methods of Analysis

To determine potential impacts to biological resources due to implementation of the RCP, the policy objectives/actions that would directly or indirectly impact biological resources were analyzed. Six issues areas were determined to be relevant to biological resources, and these issue areas were analyzed in terms of the significance thresholds presented in Section 5.10.3. The six issue areas are summarized below:

Healthy Environment: Natural Habitats

- The RCP includes a policy objective which calls for the preservation and maintenance of natural biological communities and species native to the region.

Healthy Environment: Water Quality

- A water quality objective identified in the RCP calls for the reduction or elimination of pollutants at their source before they enter the region’s water bodies. This objective will be accomplished, in part, through the preparation and implementation of a habitat conservation plan for the near shore environment.

Healthy Environment: Shoreline Preservation

- The RCP recommends continued implementation of the Regional Shoreline Preservation Strategy. This plan includes, as one option, sand replenishment.

Urban Form

- Urban form objectives in the RCP include a recommendation for redevelopment and infill development, as well as the protections of agricultural areas, natural systems, and high-value habitat areas (as reflected in adopted habitat plans), and other open-space areas that define the character of our community.

Public Facilities: Water Supply

- The RCP identified seawater desalination as one means by which the San Diego region can diversify its water supply.
Transportation

- The transportation goals identified in the RCP include the implementation of the MOBILITY 2030 plan. The MOBILITY 2030 plan identifies specific roadway improvements within the San Diego region.

5.10.3 Significance Criteria

The RCP would have a potentially significant biological resources impact if the project would:

Regional

- Result in encroachment by urban development into any defined comprehensive resource planning area (e.g., the focused planning area of the Multiple Habitat Planning Area (MHPA), Multiple Habitat Conservation Program (MHCP), San Dieguito River Valley Regional Open Space Park Plan, Poway Subarea Habitat Conservation Plan (HCP)/NCCP, or Least Bell's Vireo HCPs for the Sweetwater and San Diego Rivers).

Localized

- Either directly or indirectly, encroach into areas of natural vegetation, resulting in disruption of wildlife movement, wildlife corridors, or wildlife nurseries.

- Either directly or indirectly, have an adverse effect on an identified aquatic resource (e.g., riparian habitat, wetlands, vernal pools, riverines, marsh, coastal estuaries, Waters of the United States).

- Either directly or indirectly, have an adverse effect on any plant or animal species identified as a candidate, sensitive, or special status species in local or regional plan, policies, or regulations, or by the California Department of Fish and Game, U.S. Fish and Wildlife Service, or National Marine Fisheries Service.

- Degrade the quality of the environment, reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels,
threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal.

5.10.4 Impact Analysis

*Would the RCP result in encroachment by urban development into any defined comprehensive resource planning area?*

By focusing on compact, more environmentally sensitive development patterns, impacts to native habitat and wildlife, and habitat fragmentation and isolation within the San Diego region would be reduced. These impacts will further be reduced if future development is directed towards urban infill and redevelopment in jurisdictions with adopted conservation plans and preserves. However, future growth will still take place, and will, in some cases, require the conversion of undeveloped land and impacts to biological resources.

The RCP includes a policy objective which calls for the preservation and maintenance of natural biological communities and species native to the region. This policy objective is consistent with the goals and objectives of the various regional habitat planning efforts (NCCPs and HCPs) either approved or underway in San Diego County and vicinity.

Specific transportation projects are included in the MOBILITY 2030 plan, which would be implemented as one of the transportation goals within the RCP. Potential biological resource impacts from these improvements were discussed in SANDAG’s Regional Transportation Plan (RTP) EIR (SANDAG 2003b). The EIR did not identify any specific impact to defined comprehensive planning areas from the development of identified improvements.

The policies of the RCP direct most of the future growth into areas with adopted or draft subarea plans. These plans designate areas suitable for development and areas proposed for conservation. In the event that growth is targeted in designated conservation areas, the subarea plans contain provisions requiring that additional land be added to the conservation area that has a better biological value than those lands removed for development to compensate for the values of impacted areas. If these conditions cannot be met, then the subarea plans cannot be modified and impacts cannot occur. Any modifications to the adopted plan would be subject to oversight by the USFWS, CDFG, and require environmental review and public comment pursuant to CEQA.
Biological Resources

In summary, implementation of the RCP is not anticipated to have a significant impact on any defined comprehensive resource planning areas because goals in the RCP have been established to reduce impacts on sensitive biological resources and provisions within the subarea plans have established requirements that modifications to adopted subarea plans can only proceed if the benefits outweigh the negative impacts.

Would the RCP either directly or indirectly, encroach into areas of natural vegetation, resulting in disruption of wildlife movement, wildlife corridors, or wildlife nurseries?

By focusing on compact, more environmentally sensitive development patterns, impacts to native habitat and wildlife, and habitat fragmentation and isolation within the San Diego region would be reduced. These impacts will further be reduced if future development is directed towards urban infill and redevelopment in jurisdictions with adopted conservation plans and preserves. However, future growth will still take place, and will, in some cases, require the conversion of undeveloped land with the resulting impacts to biological resources.

As noted above, specific transportation projects are included in the MOBILITY 2030 plan, which would be implemented as one of the transportation goals within the RCP. Potential biological resource impacts from these improvements were discussed in SANDAG’s RTP EIR (SANDAG 2003b). The EIR determined that large-scale transportation project would potentially result in an impediment to wildlife movement due to habitat fragmentation. This can substantially impact long-term viability of wildlife populations in the regions. Some of these impacts can be reduced through the incorporation of design features, such as bridges and large culverts in order to minimize effects to wildlife movements. However, much of the area that would be targeted for corridor development has an adopted or draft Subarea Plan, which identifies regional wildlife movement corridors. Because provisions in the subarea plans require that any modifications to the conservation areas result in an overall benefit to the natural resources, regional wildlife movement would be adequately protected. Future development will be required to prepare subsequent environmental documents and propose avoidance, if feasible, and mitigation measures for any unavoidable impacts. Should development be intensified, localized conflicts regarding movement corridors not addressed in the regional plan may occur. These impacts would be significant on the local resources.
Additional infrastructure improvements, beyond transportation improvement, will occur during the life of the RCP. These include water, sewer and energy development projects. These projects will likely impact native vegetation, and may impact regional and local wildlife movement corridors. This represents a significant impact.

The RCP recommends continued implementation of the Regional Shoreline Preservation Strategy. This strategy includes an array of solutions to address shoreline preservation, including beach building by placing large amounts of sand on eroded beaches. Sand placement can have an adverse effect on wildlife nurseries. This represents a significant impact. The FEIR prepared for the Regional Beach Sand Project (SANDAG 2000) incorporated a mitigation monitoring program to ensure there were no long-term significant impacts to marine resources. Monitoring data indicate that no long term adverse impacts to marine biological resources have occurred since the project was completed (SANDAG 2003g).

Would the RCP either directly or indirectly, have an adverse effect on an identified aquatic resource (e.g., riparian habitat, wetlands, vernal pools, riverines, marsh, coastal estuaries, Waters of the United States)?

With respect to wetlands, most of the subarea plans have policies protecting this habitat type, although it is not the primary purpose of the subarea plans to provide a regional approach to the protection of wetlands. Additionally, many wetlands are regulated by the following agencies: ACOE, CDFG and the California Coastal Commission (CCC). For the aquatic sites under the jurisdiction of these agencies, these agencies have policies encouraging or mandating avoidance and minimization of impacts. If impacts do occur, no net loss of wetland functions or values would generally be permitted. This, in practice, often results in more wetlands created than are impacted. Unavoidable significant impact will occur to aquatic resources due to future development, however federal, state and local agencies would require mitigation measures to ensure there is no net loss of wetland habitat. However, some aquatic resources are not protected by existing regulations. Impacts may occur to these resources resulting in a loss of aquatic resources, thus resulting in a significant impact.

Specific transportation projects are included in the MOBILITY 2030 plan, which would be implemented as one of the transportation goals with the RCP. Potential biological resource impacts from these improvements were discussed in the RTP EIR. The EIR
noted significant impacts due to the widening of I-5 and the Coastal Rail double-tracking along coastal lagoons and bluffs from Oceanside to San Diego.

Implementation of water quality objectives identified in the RCP, including the reduction and elimination of pollutants in the region’s water bodies, would be a beneficial impact on aquatic resources, including marine biological resources. Additionally, the implementation of a habitat conservation plan for the near shore environment would provide for a comprehensive approach to the preservation of sensitive near shore species. Overall, significant impacts to aquatic resources would occur as a result of the RCP; however, because existing regulatory requirements establish compensatory mitigation that results in no net loss of aquatic resources for the most part, the impacts are, for the most part, considered mitigatable. Because some aquatic resources are not under protection, significant impacts may occur.

Would the RCP either directly or indirectly, have an adverse effect on any plant or animal species identified as a candidate, sensitive, or special status species in local or regional plan, policies, or regulations, or by the California Department of Fish and Game, U.S. Fish and Wildlife Service, or the National Marine Fisheries Service?

By focusing on compact, more environmentally sensitive development patterns, impacts to native habitat and wildlife, and habitat fragmentation and isolation within the San Diego region would be reduced. Those impacts will further be reduced if future development were directed towards urban infill and redevelopment in jurisdictions with adopted conservation plans and preserves. However, future growth will still take place, and will, in some cases, require the conversion of undeveloped land and, thus, significant impacts to biological resources.

The increase in intensity of development can result in an increased noise levels in certain areas. Additionally, increased noise from roadway traffic or transit will also result in an increase in ambient noise. An increase in levels of noise has the potential to affect behavioral and physiological responses in noise-sensitive wildlife receptors. Adverse responses to increased noise may include hearing loss or the temporary masking of vocalizations commonly used during the breeding season, nest abandonment, and decrease in predator awareness, thereby resulting in a decrease in reproductive and overall fitness of certain animal species. Birds are considered to be the most noise-sensitive group of wildlife species in terrestrial ecosystems.
Specific transportation projects are included in the MOBILITY 2030 plan, which would be implemented as one of the transportation goals with the RCP. Potential biological resource impacts from these improvements were discussed in the RTP EIR. The EIR noted that direct impacts from new transportation facilities (highway, rail) could be potentially significant and adverse to sensitive habitats, plants and wetlands. Significant adverse indirect effects to wildlife may also result from noise, light, glare, air pollution, and polluted runoff after facilities are built.

The RCP identifies seawater desalination as a means of diversifying the region’s water supply. According to a report prepared by the CCC (2003), seawater desalination can have an adverse effect on marine organisms, if desalination facilities are not properly sited and designed. The primary adverse effects caused by the operation of desalination plants are associated with the intake systems, which can cause impingement and entrainment to marine organisms. Impingement refers to the injury or death caused by trapping marine life against the intake screens due to the velocity of the intake water. Entrainment refers to the death of relatively small marine organisms, such as plankton, larvae, and fish eggs, that are pulled through the intake screens and into the processing system of a desalination facility. The development of seawater desalination facilities as a means of diversifying the regional water supply has the potential to significantly affect marine biological resources.

*Would the RCP substantially degrade the quality of the environment, reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal?*

By focusing on compact, more environmentally sensitive development patterns, impacts to native habitat and wildlife, and habitat fragmentation and isolation within the San Diego region would generally be less than without implementation of the RCP. Fewer impacts to native habitat and wildlife will aid in the maintenance of fish and wildlife populations, and assist in maintaining the number or range of rare or endangered plants or animals. However, future growth will still occur, and in some cases, will require the conversion of undeveloped land and impacts to biological resources resulting in significant impacts. Because it is infeasible to provide mitigation to a level that would result in no loss of endangered or threatened species, these impacts are considered to be significant and unmitigable at a plan to ground level. Although this impact is expected to be less than if the RCP was not adopted, it would nevertheless still be significant because
future impacts to native habitat could result in a reduction of the number or restrict the range of a rare or endangered plant or animal.

5.10.5 Mitigation Measures

Listed below are general mitigation strategies that could be applicable at the project-specific level to reduce impact from future projects. Mitigation measures Bio-1 through Bio-9 were presented in the RTP EIR and are carried forward with slight modification, as applicable mitigation for the RCP. Mitigation measure Bio-10 is an additional measure that addresses the non-transportation goals of the RCP.

Bio-1 Design development projects to minimize or eliminate impacts to natural habitats and known sensitive resources. Development within large contiguous areas of habitat shall be minimized to reduce fragmentation of remaining habitat areas.

Bio-2 For development projects, provide for continued movement of ground-level wildlife across rights-of-way, where the project or regional conservation plan has identified wildlife corridors through the use of appropriately-sized bridges or other openings where roads or transit features would create barriers.

Bio-3 Biological mitigation shall be directed to areas that are proposed for conservation and that support similar or higher value habitat. These efforts shall be coordinated with resource agencies and regional habitat conservation and planning efforts.

Bio-4 Minimize impacts to oak woodlands, vernal pools, estuaries, lagoons, and other regionally significant biotic resources; where unavoidable, replace with equal or better quality habitat to ensure no net loss of the resources.

Bio-5 Site development to minimize alteration of streambeds and associated riparian vegetation; where unavoidable, replace with like quality or better habitat at a ratio required by regulatory agencies with the goal of no net loss to wetlands.

Bio-6 Preserve open space areas identified in local, state and federal plans.
Biological Resources

Bio-7 Limit the disturbance to native vegetation to the extent practicable. Revegetate with native plants where appropriate, and locate construction staging areas in previously disturbed areas.

Bio-8 Schedule the construction of projects to avoid impacts to wildlife (e.g., avoid breeding season for sensitive species) to the extent practicable. Project-specific review shall define specific mitigation measures, such as berms and sound walls, which would reduce construction and operational noise to within regulatory standards.

Bio-9 Use appropriate water pollution control technology and best management practices to minimize or eliminate impacts to downstream aquatic systems.

Bio-10 Ensure that future coastal projects are sited and designed as to minimize impacts to marine resources. Any unavoidable impacts to significant marine resources will be mitigated to below a level of significance in accordance with the requirements of the local jurisdiction and appropriate agency (e.g., CDFC, USFWS, NMFS).

5.10.6 Summary of Impacts With Significance Conclusions

Future growth, including transportation projects, could potentially result in an impediment to regional wildlife movement due to habitat fragmentation; however, these regional impacts could be avoided through conditions required in adopted subarea plans. Local wildlife corridors would be affected by future growth that would not necessarily be avoided through the subarea plans. Implementation of mitigation measures Bio-1 through Bio-9 would reduce this impact to below a level of significance.

Future water, sewer and energy development projects are anticipated to have a significant impact on native vegetation, and may impact regional and local wildlife movement corridors. Implementation of mitigation measures Bio-1 through Bio-9 would reduce this impact to below a level of significance.

Sand placement, as a means of shoreline preservation can have a significant effect on wildlife nurseries. SANDAG is currently monitoring the effects of the regional beach sand project, and data indicate that adverse impacts to marine biological resources have been less than significant since the project was completed (SANDAG 2003g). Any
impacts associated with sand placement would be mitigated to below a level of significance with implementation of mitigation measures Bio-10.

The development of seawater desalination facilities as a means of diversifying the regional water supply has the potential to significantly affect marine biological resources. Implementation of mitigation measure Bio-10 would reduce this impact to below a level of significance.

Impacts to aquatic resources could be potentially significant; however, through adherence to existing federal, state and local regulations (requiring no net loss) most of the impacts are considered reduced to below a level of significance. Some aquatic resources are not protected by existing federal, state and local regulations, thus any impacts to those resources are significant. Implementation of mitigation measures Bio-9 and Bio-10 would reduce this impact to below a level of significance.

The RCP would likely result in a reduction of the number of rare or endangered plants and animals; thus, these impacts are significant and unmitigated. Site avoidance of all impacts to rare or endangered species can not be achieved at a regional plan level. Because San Diego supports such a diversity of these resources, it is unavoidable that individuals of some species would be lost as a result of providing housing and associated infrastructure.

Although there are significant and unmitigated impacts to biological resources, these impacts would be greater under the continued development under the existing general plans. Impacts to lands outside of San Diego County (Riverside, Orange, and Imperial counties and border areas) would be greater if development continued in a manner consistent with the adopted land use plans.
5.11 CULTURAL RESOURCES

5.11.1 Existing Conditions

Future project activities have the potential to impact significant historical and archaeological resources. Studies of historic and archaeological resources can provide information regarding the culture of both prehistoric and historic occupants and the climate of the period. The following discussion outlines and briefly describes theories currently presented for early Native American occupation of San Diego County. This section also includes an abbreviated discussion of the political history of San Diego County for the purpose of providing a background to facilitate a later discussion on the presence, chronological significance and historical relationship of resources within the project area.

Early Period

The earliest prehistoric sites of San Diego County have been identified as belonging to the San Dieguito Complex or Tradition. These people were initially believed to be big game hunters; however, additional research has provided information that shows these people to have been a hunting and gathering society. These people may have migrated into San Diego County as early as 10,000 years ago. Diagnostic artifacts associated with San Dieguito sites (Harris Site, CA-SDI-149, Rancho Park North Site CA-SDI-4391/SDM-W-49, Agua Hedionda Site CA-SDI-210, and Windsong Shores CA-SDI-10695 include scraper planes, choppers, scraping tools, crescentics, elongated bifacial knives, and leaf-shaped points (Warren 1966, 1967; Moriarty 1969; Kaldenberg 1982; Gallegos 1985, 1987, 1991). This tool assemblage has also been called the Western Pluvial Lakes Tradition (Bedwell 1970; Moratto 1984) and the Western Lithic Co-tradition (Davis 1969). These early occupants used coastal and inland resources that included plants, animals, shellfish, and fish (Kroeber 1925, Moriarty 1969; Kaldenberg 1982; Gallegos 1985, 1987, 1991). Manos and metates found on San Dieguito sites suggest reliance on seed and vegetable foods. Debate continues as to whether these people, who occupied both inland and coastal areas, abandoned San Diego County circa 8,500 years ago (Gallegos 1987) or remained, adopting new tools and cultural activities.

Sites dating to this period that were located in transverse valleys and sheltered canyons have been identified by some researchers as the La Jolla Tradition (True 1959; Warren et al. 1961; Meighan 1954). True (1959), Warren (1961), and Meighan (1954) called these
sites the Pauma Complex. Pauma Complex sites, which may express a more sedentary occupation, have been defined as having a predominance of grinding implements (manos and metates), no shellfish remains, great tool variety, with an emphasis on both gathering and hunting (True 1959; Warren et al., 1961; Meighan 1954).

The La Jolla Tradition and Pauma Complex sites have been identified by Gallegos (1985) as coastal and inland manifestation of the same culture group. This hypothesis views the period from 10,000 years ago through approximately 1,300 years ago as the Early Period representing settlement by one culture group (San Dieguito/La Jolla) that is characterized by discrete modification of the artifact assemblage to respond to environmental changes and subsistence demands.

This period was not environmentally stable as illustrated by the siltation of coastal lagoons, depletion of lagoon resources (i.e., shellfish and fish), and the formation of San Diego Bay (Warren and Pavesic 1963; Miller 1966; Gallegos 1985). Radiocarbon dates from sites adjacent to San Diego’s coastal lagoons indicate that large populations were supported by lagoon resources circa 6,000 years ago. These sites do not appear to have been occupied after 3,000 years ago to circa 1,300 years ago. This absence of prehistoric occupation coincides with siltation of coastal lagoons and depletion of resources (Warren and Pavesic 1963; Miller 1966; Gallegos 1985). Archaeological deposits dated to circa 2,000 years ago are located closer to San Diego Bay where shellfish were still abundant (Gallegos and Kyle 1988).

Late Period

By 2,000 years ago, Yuman-speaking people occupied the Gila/Colorado River drainage (Moriarty 1969). Moriarty (1965, 1966) suggested a preceramic Yuman phase after his work at the Spindrift site in La Jolla. Based on a limited number of radiocarbon samples, Moriarty concluded that the preceramic Yumans occupied the San Diego coast circa 2,000 years ago, with ceramics having been introduced into San Diego County from the eastern deserts by circa 1,200 years ago. Yuman cultural traits may have been present in San Diego County before 2,000 years ago, however, Yuman influence is well documented after 1,200 years ago with the presence of small projectile points, pottery, Obsidian Butte obsidian, and cremation of the dead. The interface between Early Period occupants and Yuman (Kumeyaay/Diegueño) is not well understood. These early occupants of San Diego County may have been assimilated by Yuman speakers or they may have been displaced.
History

The history of San Diego County is commonly presented in terms of Spanish, Mexican, and American political domination. A discussion of historic land use and occupation under periods of political rule is justified on the basis of characteristics associated with each period, when economic, political, and social activities were influenced by the prevailing laws and customs. Certain themes are common to all periods, such as the development of transportation, settlement, and agriculture. A comprehensive account of public and privately owned land in California, that includes the discussion of laws, activities and events related to the development of the state, is provided by Robinson (1979).

The first European arrival to San Diego was on September 28, 1542, when Juan Rodriguez Cabrillo sailed into San Diego Bay; on November 10, 1602, Sebastian Vizcaíno named the bay and port San Diego de Alcalá (Engstrand 1976). Although historically notable, these early visits had a limited impact on the region except as a portent of changes to come.

The Spanish Period (1769-1821) represents: exploration; establishment of the San Diego presidio, and the San Diego and San Luis Rey missions; the introduction of horses, cattle, and agricultural goods; and a new method of building construction and architectural style. Spanish influence actually went beyond the year 1821, when California became a part of Mexico, for the missions continued to operate as in the past and laws governing the distribution of land were also retained for a period of time.

The Mexican Period (1821-1848) relates to the initial retention of Spanish laws and practices until shortly before secularization of the San Diego mission in 1834, more than a decade after Spanish rule. Although several grants of land were made prior to 1834, after secularization, vast tracts of land were dispersed through land grants. Cattle ranching prevailed over agricultural activities and the development of the hide and tallow trade increased during the early part of this period. The Pueblo of San Diego was established and transportation routes were expanded. The Mexican Period ended in 1848 after the Mexican-American War.

The American Period (1848-Present) began when Mexico ceded California to the United States under the Treaty of Guadalupe Hidalgo in 1848. Terms of the Treaty brought about creation of the Lands Commission, in response to the Act of 1851, which was
adopted as a means of validating land ownership throughout the state through settlement of land claims. Few Mexican ranchos remained intact because of legal costs and lack of sufficient evidence to prove title claims. Much of the land that once constituted the rancho holdings became available for settlement by emigrants to California. The influx of people to California and the San Diego region was the result of various factors, including the discovery of gold in the state; conclusion of the Civil War; availability of free land through passage of the Homestead Act; and importance of the county as an agricultural area supported by the construction of connecting railways.

Existing Resources

The Regional Comprehensive Plan (RCP) study area includes densely developed urban areas, rural development, agricultural lands, and areas that are currently undeveloped. A wide variety of geologic formations are present within the study area including ocean coastline and associated estuaries, bays, and lagoons; mesas; mountains; and canyons. Many of these geologic formations are considered to be unique, and are further discussed in Section 5.8 of the PEIR. Over 16,000 cultural resources have been identified within San Diego County. These resources include prehistoric resources such as shell middens along the coastline, temporary camps, habitation and village locales, bedrock milling features, and quarries. Historic resources in San Diego County include standing buildings and districts, and archaeological resources such as cisterns, privies, and trash deposits.

Numerous registered historic landmarks are recorded within the San Diego County area. These include archaeological sites, standing structures, features (prehistoric or historic), and historic districts that have been identified as significant and that may be listed on the National Register of Historic Places, the California State Landmarks list, and County and City of San Diego Historic Landmarks lists. Additional resource lists include historic inventories of buildings and structures for the cities of Carlsbad, Oceanside, Escondido, Valley Center, Encinitas, Lemon Grove, National City, Chula Vista, La Mesa, San Ysidro, and El Cajon, and City of San Diego communities that include Sherman Heights, Bayside, El Cortez area, the Core study area called Harbor View, Barrio Logan and Southeast San Diego, the Mission Hills/Presidio Hills areas, and portions of downtown San Diego streets (7th, 8th, 9th, 10th, 11th, 12th, G, K, E, Imperial, Broadway, and Island), Grant Hill, Little Italy, and Centre City.
Cultural Resources

Regulatory Setting

The cultural resources within the RCP study area are located within various city, county, and federal jurisdictions. Federal and state legislation that applies to future development projects associated with the RCP are identified in Table 5.11-1. In addition, the County of San Diego and various cities have standards or guidelines for the treatment of cultural resources.

5.11.2 Methods of Analysis

Because of the very large project area for this RCP a literature review and record search was not completed for this study. A cursory review of records and early maps on file at the South Coastal Information Center (SCIC) at San Diego State University (SDSU) was conducted. These records were then considered in relation to the areas that would be impacted by implementation of the RCP, specifically the Smart Growth Opportunity Areas (SGOA).

5.11.3 Significance Criteria

The RCP would have a potentially significant cultural resources impact if the project would:

Regional/Localized

- Cause an adverse change in the significance of a historical or archeological resource, including those identified in any applicable general plan, historic resource plan, or other local regulations;

- Disturb any human remains, including those interred outside of formal cemeteries.
### Table 5.11-1
Summary of Applicable Cultural Resource Regulations

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Brief Description</th>
<th>Applicability to RCP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Historic Sites Act of 1935</strong></td>
<td>Establishes a national policy to preserve for public use historic sites, buildings, and objects of national significance for the inspiration and benefit of the people of the United States. The act also authorized interagency, intergovernmental, and interdisciplinary efforts for the preservation of cultural resources.</td>
<td>Applicable if federal monies are involved or if documentation and recording of a significant historic building or structures is necessary.</td>
</tr>
<tr>
<td><strong>Reservoirs Salvage Act of 1960</strong></td>
<td>Provides for the recovery and preservation of historical and archaeological data (including relics and specimens) that might be lost or destroyed in the construction of dams and reservoirs.</td>
<td>Applicable if any dams or reservoirs are planned within the RCP study area.</td>
</tr>
<tr>
<td><strong>National Archaeological/ Historic Preservation Act of 1966 (Section 106)</strong></td>
<td>This act strengthened the national policy on historic preservation by encouraging preservation at the state and local levels. It created the National Register of Historic Places, which includes cultural resources of national, state, and local significance. The act established a system for state historic preservation programs under State Historic Preservation Officers (SHPO).</td>
<td>Applicable for the identification and listing of significant cultural resources.</td>
</tr>
<tr>
<td><strong>U.S. Department of Transportation Act of 1966</strong></td>
<td>Establishes the national policy to preserve historic properties affected by federally aided transportation projects.</td>
<td>Specific to Caltrans projects.</td>
</tr>
<tr>
<td><strong>National Environmental Policy Act (NEPA)</strong></td>
<td>Mandates the protection of cultural resources within its general policy for environmental protection. It requires the preservation of important historic, cultural, and natural aspects of our national heritage, and the maintenance, wherever possible, of an environmental that supports diversity and a variety of individual choice.</td>
<td>Applicable to all prehistoric and historic cultural resources.</td>
</tr>
<tr>
<td><strong>California Public Resources Code Section 5020</strong></td>
<td>Authorizes the California Department of Parks and Recreation (CDPR) to designate Registered Historical Landmarks and Registered Point of Historical Interest.</td>
<td>Could be used if significant structures, prehistoric or historic sites are located within the RCP study area that qualify for listing.</td>
</tr>
<tr>
<td><strong>California Public Resources Code Section 5097.5</strong></td>
<td>Defines the unauthorized disturbance or removal of archaeological, historical or paleontological resources located on public land as a misdemeanor.</td>
<td>This code protects cultural resources that might be present within the RCP study area.</td>
</tr>
<tr>
<td><strong>California Public Resources Code Section 5097.9</strong></td>
<td>Details procedures for action to be taken when Native American human remains are discovered. The Native American Heritage Commission (NAHC) enforces the provisions of the Section.</td>
<td>Applicable if Native American human remains are identified, generally during construction monitoring or during testing or data recovery excavation.</td>
</tr>
<tr>
<td><strong>California Public Resources Code Section 7051</strong></td>
<td>Defines the public offenses that include removing any part of any human remains from any place of interment or deposition with the intent to sell it or to dissect it without authority of law.</td>
<td>Applicable to the protection of human remains identified during construction monitoring or during testing or data recovery excavation.</td>
</tr>
<tr>
<td><strong>California Native American Graves Protection and Repatriation Act (2001)</strong></td>
<td>Provides broad provisions for the protection of California Native American human remains and cultural items. Designed to ensure that all California native American human remains and cultural items are treated with respect.</td>
<td>Applicable during testing or data recovery programs.</td>
</tr>
</tbody>
</table>
5.11.4 Impact Analysis

*Would the RCP cause an adverse change in the significance of a historical or archeological resource, including those identified in any applicable general plan, historic resource plan, or other local regulations?*

Future development projects will include grading activities which remove and/or disturb the upper layer of soils. Specific potential impacts to cultural resources from future individual projects cannot be determined at this time, therefore, only a broad generalization of potential impacts in relation to each development corridor is discussed below.

**Coastal Plain (I-5 Corridor)**

Future project activities in the coastal areas of the region have the potential to impact significant archeological resources. Trenching and grading activities have the potential to impact prehistoric shell middens that are present along the coast. These prehistoric middens contain information that records the coastal setting changes that occurred during the Holocene rise in sea level circa 10,000 to 3,000 years ago. This rise in sea level helped to create the San Diego Bay and coastal lagoons that began to be filled with silt circa 3,000 years ago changing Native American settlement patterns in San Diego County. Coastal and lagoon sites generally contain large quantities of shellfish remains, a few lithic tools, and fire hearths. The type and quantity of shellfish remains present in the midden can be used as a relative dating measure to record and measure the silting of the coastal lagoons. The loss of these resources would be significant.

**I-15 Corridor**

Trenching and grading activities associated with future development projects may impact prehistoric sites located along the I-15 corridor include habitation sites, temporary camps, bedrock milling locales, flaking stations, and quarries. Examples of a habitation site identified as a historic archaeological resource would be the “Deer Springs Site” with associated human burials which is located north of Escondido at Deer Springs Road. Additionally, a known habitation site is located in the Otay River Valley. The precise location of future development in along I-15 Corridor is not known at this time. However, due to scale of the project, significant impacts to cultural resources could occur.
San Diego City Area

Since much of downtown San Diego and the adjacent areas was developed prior to CEQA legislation, few prehistoric sites have been recorded in downtown San Diego and the surrounding areas. However, some prehistoric and historic resources have been identified under existing paved streets and older buildings. Future grading and trenching activities in the San Diego City area for development and redevelopment projects may impact these resources. The precise location of future development in the San Diego City area is not known at this time. However, due to scale of the project, significant impacts to cultural resources could occur.

SR-78 Corridor

Prehistoric sites located along the SR-78 Corridor include habitation sites, temporary camps, and bedrock milling locations. Historic resources include early adobe houses, historic buildings and houses, and old roads. Future grading and trenching activities associated with project development may impact these resources. Additionally, as with the San Diego City area, much of this area was developed prior to CEQA legislation and sites, both prehistoric and historic, may be identified during future construction. The precise location of future development along the SR-78 Corridor is not known at this time. However, due to scale of the project, significant impacts to cultural resources could occur.

SR-76 Corridor

Prehistoric sites that have been identified along the SR-76 corridor include habitation sites, temporary camps, flaking stations, and bedrock milling locations. Highway 76 extends from the Pacific Ocean to mountain areas and, therefore, a wide range of prehistoric sites can be expected to be present along this corridor. Historic buildings, farmsteads, and houses are also present along this corridor. These historic resources can be expected to also have associated subsurface deposits consisting of privies, trash dumps, and cisterns. The precise location of future development along the SR-76 Corridor is not known at this time. However, due to scale of the project, significant impacts to cultural resources could occur.
I-8 Corridor to La Mesa

Several prehistoric habitation sites have been identified along the I-8 corridor. These include a village (with human burials) that is located under the Riverwalk Golf Course at the western end of the corridor, a site near Qualcomm Stadium, and one at the San Diego Mission. Historic resources along the I-8 corridor include Old Town, the Presidio, and the San Diego Mission complex. This corridor is densely developed; however, areas that were developed prior to CEQA may contain older buildings that will need to be assessed for significance and the potential of buried prehistoric and historic deposits. Future grading and trenching activities associated with development and redevelopment in the I-8 corridor may impact cultural resources that were previously unidentified. The precise location of future development along the I-8 Corridor is not known at this time. However, due to scale of the project, significant impacts to cultural resources could occur.

SR-67 Corridor

Future grading and trenching activities associated with development has the potential to impact cultural resources such as prehistoric habitation sites, temporary camps, bedrock milling features, and lithic scatters. Old farmsteads, houses, and other buildings may be present in this area that might need to be assessed for significance. Associated prehistoric and historic resources may be present in association and/or under historic buildings. The precise location of future development along the SR-76 Corridor is not known at this time. However, due to scale of the project, significant impacts to cultural resources could occur.

Otay Mesa Area

The Otay Mesa area has been subjected to numerous archaeological surveys and testing programs. These studies have identified a mesa that is covered with a sparse lithic scatter with little subsurface deposition. Prehistoric habitation sites which have been identified as significant resources are located near water sources, such as the mouth of a canyon and in the Otay River Valley. Future grading and trenching activities associated with development may impact unidentified cultural resources. The precise location of future development in the Otay Mesa area is not known at this time. However, due to scale of the project, significant impacts to cultural resources could occur.
Cultural Resources

Redevelopment Areas

Additionally, portions of the RCP were developed prior to the use of heavy grading equipment. In these situations, subsurface historic deposits are often identified when older houses and buildings are removed for the purposes of redevelopment. These deposits consist of privies, cisterns (often filled with historic debris), and trash deposits that can provide information on early European and Mexican settlement in San Diego County. Therefore, redevelopment within portions of the RCP has the potential to significantly impact unidentified historical resources.

Overall, implementation of the RCP has the potential to reduce impacts to cultural resources on a regional level. Since future development under the RCP is proposed to be compact, and in already developed areas, the overall amount of impacts to undisturbed cultural resources is expected to be less than under the existing land use plans. However, implementation of the RCP will still result in significant impacts to cultural resources.

Would the RCP disturb any human remains, including those interred outside of formal cemeteries?

Implementation of the RCP has the potential to disturb human remains, including those interred outside formal cemeteries. Within the coastal areas are shell midden sites, and numerous human burials have been identified in these sites. Additionally, given the long period of Native American occupation in the San Diego region, the likelihood that some future development project may occur on a site where human remains are located is high. Therefore this represents a significant impact. CEQA Guidelines Section 15126.4(b)(3)(C) states that any archaeological sites that are found to contain human remains shall be treated in accordance with the provisions of Section 7050.5 of the Health and Safety Code. Additionally, CEQA Guidelines Sections 5064.5(e) and (f) provide guidance on the accidental discovery of human remains.

5.11.5 Mitigation Measures

A review of literature and historic maps, a records search, and field survey to identify the presence or absence of cultural resources for each future development project shall be undertaken if the jurisdiction determines these studies are warranted. Prior to any development where possible impacts to significant cultural resources may occur, each cultural resource will need to be
evaluated through testing programs to determine the significance/importance prior to determining mitigation of proposed impacts or providing recommendations for preservation. Historic resources may require analysis by a qualified historian or an architectural historian. Sites identified as significant/important will need to be avoided by development impacts or mitigated by completion of a data recovery program conducted in compliance with CEQA and agency guidelines. Site avoidance and preservation can include capping the site with gravel or construction fabric and 16 to 18 inches of sterile fill soil. Sites proposed for capping shall be indexed so future researchers have reasonable knowledge of the resources that have been protected. Capped sites can be landscaped with native, shallow rooted plants that are compatible with the surrounding biologic habitat. Passive uses for capped sites include trails, picnic and play areas, parking lots, and tennis or volleyball courts. A data recovery program for archaeological sites consists of excavation of a percentage of the site (determined in consultation with the local agency) to provide information necessary to answer significant research questions.

Cult-2 Develop measures to provide maximum avoidance and minimization of significant archaeological and historical resources during development.

Cult-3 For future development projects, lead agencies shall integrate curation of all archaeological and/or historical artifacts and associated records in a regional center focused on the care, management and use of archaeological collections. Artifacts include material recovered from all phases of work, including the initial survey, testing, indexing, data recovery, and monitoring. Curated materials shall be maintained with respect for cultures and available to future generations for research.

Cult-4 Include a measure in the Urban Design Best Practices Manual requiring the integration of historical resources into the design of future development within the SGOA.

Cult-5 Local jurisdictions shall develop measures to encourage adaptive reuse of existing historical structures within the SGOA.
Cultural Resources

Cult-6 Significant historic structures and buildings that will be demolished as a part of future projects will need to be documented by a qualified architectural historian. When local jurisdictions have more strict standards regarding the treatment of historic structures, the local jurisdiction’s policies shall be used.

5.11.6 Summary of Impacts With Significance Conclusions

Due to the scale of the Proposed Project, and the long history of Native American habitations in the region, future grading and construction activities associated with implementation of the RCP are expected to result in significant impacts to archaeological and historical resources along the identified SGOA. Implementation of mitigation measures Cult-1 through Cult-6 would reduce some of these impacts to below a level of significance. However, some historical resources could be destroyed during implementation of the RCP. The loss of these historical resources cannot be reduced to below a level of significance.

Future grading and construction activities associated with implementation of the RCP could result in significant impacts to human remains. Implementation of mitigation measures Cult-1 through Cult-3 would reduce these impacts to below a level of significance.
5.12 PUBLIC SERVICES / UTILITY SYSTEMS

This section analyzes water supply and water facilities, sewer, solid waste management, education services, police services and fire protection services, and park/recreation services in context of the Regional Comprehensive Plan (RCP). The provision of energy resources is discussed in Section 5.7 of the Program Environmental Impact Report (PEIR).

5.12.1 Existing Conditions

Water Supply

The San Diego County Water Authority (SDCWA) is the wholesale water agency serving 23 retail water agencies in the San Diego region. SDCWA’s mission is to provide a safe and reliable water supply to meet current and projected regional water supply needs and to advise local governments regarding water supply issues. SDCWA currently imports 75 to 95 percent of the region’s water supply primarily through the Metropolitan Water District (MWD) of Southern California in Los Angeles. MWD secures its imported supply from two main sources, the Colorado River and the State Water Project (SWP). The remaining water comes from local supply sources from within the SDCWA service area. Areas outside the SDCWA service areas that are served by groundwater are described in Section 5.9 (Hydrology/Water Resources) of the EIR.

Based upon annual precipitation and numerous pressures upon the Bay-Delta system, there can be variability in the delivery of large supplies of water from the SWP (which flows from the San Francisco Bay/Sacramento-San Joaquin River Delta through the California Aqueduct). In order to address the overall health and economic sustainability of the system, the CALFED Bay Delta Program was established by the state and federal government. This program was organized to develop a comprehensive long-term solution to the ecosystem, levee stability, water quality, and water supply reliability problems affecting the Bay-Delta system.

The availability of Colorado River water is governed by a system of priorities and water rights that have been established over many years. California has an annual apportionment of 4.4 million acre feet (MAF) and Mexico is allotted 1.5 million. California has historically used about 5.2 MAF through the use of surplus and other states’ unused apportionments. In recent years, as growth has occurred in the West,
Arizona and Nevada have increased their water demand which has limited the amount available to Southern California.

In October 2003, the Imperial Irrigation District (IID) Transfer Agreement was approved after many years of complex negotiations among four water agencies and the state and federal governments. The purpose of the agreement was to provide a framework for how California will transition to, and live within its basic 4.4 MAF apportionment.

SDCWA recently completed its Regional Water Facilities Master Plan and certified the Final PEIR on the Master Plan in November 2003. The Master Plan represents SDCWA’s long-range water planning efforts to accommodate the growth projected by SANDAG in accordance with a 1992 Memorandum of Agreement (MOA) between SDCWA and SANDAG. The 1992 MOA ensures that water demand projections are linked with SANDAG’s Regional Growth Forecast and that water supply is a component of the overall regional comprehensive planning efforts.

The Master Plan based upon information which it has received from its Member Agencies concerning current and projected demand for water services, and from MWD and other sources concerning current and projected availability of water supplies, based on current facilities, future planned facilities (funded), and future facilities (unfunded). Based upon the information analyzed, the report concludes that with the exercise of reasonable conservation and the fiscally responsible future implementation of certain evaluated water production and retention projects, SDCWA will continue, with a high degree of reliability, to supply its member agencies with the required capacity.

Additionally, SDCWA is implementing projects and programs to diversify water supplies and ensure reliability for the San Diego region. Deliveries of conserved transfer water from IID to San Diego has commenced, and within the next five years deliveries of conserved water from the All American Canal and Coachella Canal lining projects will begin. The SDCWA has also initiated the environmental process for a potential regional seawater desalination project and provides funding and technical assistance to its member agencies for development of local projects.

**Water Infrastructure**

Existing water infrastructure in San Diego includes the First and Second Aqueducts. The First Aqueduct consists of Pipelines 1 and 2, and the Second Aqueduct includes Pipelines 3, 4, and 5. These aqueducts carry water from MWD’s delivery point to water customers in San Diego County via a network of smaller pipelines, reservoirs, reaches

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and treatment plants. Most of the water delivered by the SDCWA is treated, potable water. Water filtration for all retail water services is provided either by a member agency or by MWD.

The Emergency Storage Project (ESP) is designed to meet the emergency demand for water in the event that a natural disaster disrupt flow from either the Colorado River to MWD, or from MWD to the SDCWA. When completed, the ESP will add 90,100 acre feet of storage capacity. The ESP calls for construction of a new dam and reservoir at Olivehain, with a capacity of 24,000 acre feet. Construction of the dam is complete, and filling of the reservoir has commenced. The ESP project also includes approximately 20 miles of large diameter pipeline, five major pump stations, and the raising of a second dam.

As per the Regional Water Facilities Master Plan (SDCWA 2002), the design capacity of SDCWA’s total imported water system is approximately 1,430 cubic feet per second (cfs). Current water infrastructure adequately serves the water needs in the San Diego region.

Future water infrastructure needs are coordinated through SDCWA’s Capital Improvement Plan (CIP). The CIP was established in 1989 to identify the construction of facilities needed to provide safe, reliable, and operationally flexibility water storage, treatment, and delivery system for member agencies. The CIP is reviewed annually to identify changing conditions with respect to demand projections, the economy, and the changing needs of member agencies. The SDCWA and its member agencies are studying options to increase treatment capacity to ensure that future water infrastructure needs in San Diego County are met.

**Sewer/Wastewater Management**

Sewer and wastewater management within San Diego County is provided by a combination of wastewater agencies and local jurisdictions. Six wastewater treatment facilities/districts are maintained by the County of San Diego Department of Public Works. These include the Alpine, Julian, Lakeside, Pine Valley, and Spring Valley Sanitation Districts, as well as the Rancho del Campo Water Pollution Control Facility (San Diego County 2004a and 1993). The remaining portions of unincorporated San Diego County are serviced eight individual wastewater agencies. The incorporated areas of the county include thirteen wastewater agencies/districts, many of which are run by cities. This includes the City of San Diego’s Metropolitan Wastewater System, which
treats the wastewater collected by five county sanitation districts, as well as the Cities of National City, Chula Vista, El Cajon, La Mesa, Lemon Grove, and Poway.

**Solid Waste Management**

The San Diego region’s waste management network is composed of landfills, transfer stations, material recovery facilities, recycling centers, and household hazardous waste collection facilities. Seven functional landfills exist in San Diego County: San Onofre, Las Pulgas, Borrego, Ramona, Sycamore, Miramar, and Otay. Of these, five accept municipal solid waste, and the remaining two, Las Pulgas and San Onofre, only accept military waste. Of those accepting municipal waste, four are privately owned.

Approximately 2.8 million tons of waste is disposed in the local landfills each year. In addition, the County exported an annual average of 240,000 tons of waste to other California counties and 116,000 tons out of state (SANDAG 2003a).

Future landfill capacity depends on the adequacy of the physical capacity and whether facilities will be able to accept waste at the region’s rate of disposal. Physical landfill capacity is defined as the remaining volumetric landfill capacity of existing landfills. Even though physical capacity may be sufficient, the rate at which materials enter the landfill is restricted by the following constraints: the amount of annual and/or daily traffic and by tonnage limits at disposal and transfer facilities. If the 2004 permitted limits on disposal rates are not changed, and without increased landfill space, diversion or exporting of waste, the region will likely run out of landfill disposal capacity by 2016 (SANDAG 2003a).

The City of San Diego is considering expanding the Miramar Landfill. Specifically, the city is considering options regarding a “vertical expansion” of Miramar Landfill, which would otherwise be expected to close in 2011. Vertical expansion could extend the landfill’s operational life between three and ten years. Additionally, an application has been filed with the City to expand the Sycamore Landfill. The application proposes revisions to land use permits to expand the size and throughput of the facility. This proposal is subject to environmental review. One new landfill is proposed in San Diego County. Gregory Canyon was incorporated into the County of San Diego’s General Plan by a voter initiative in 1994 as a possible landfill site. Environmental review and permitting procedures are underway. The construction of the Gregory Canyon Landfill, if approved and constructed, will help meet future landfill demand in San Diego County,

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though additional landfill sites may need to be explored in order to meet landfill demand until 2030.

Education

Within the County of San Diego there are 590 public schools in 42 school districts which serve over 470,000 students at K-12 level (SDCOE 2004). Additionally, San Diego County has eight community colleges, as well as three public universities: San Diego State University (SDSU), Cal State San Marcos and the University of California San Diego (UCSD). Recent California budget issues have impacted local school districts, as well as the community colleges and public universities.

Police Services

Police protection services within San Diego County are provided by several city police departments and the County Sheriff’s Department. The Sheriff’s Department provides service to all of the unincorporated areas of the County. Additionally, the Sheriff’s Department provides law enforcement service to the cities of Del Mar, Encinitas, Imperial Beach, Lemon Grove, Poway, San Marcos, Santee, Solana Beach and Vista through service contracts (San Diego County 2004b). The cities of Carlsbad, Chula Vista, Coronado, El Cajon, Escondido, La Mesa, National City, Oceanside, and San Diego maintain individual police departments. All of these law enforcement departments have performance measures with regard to acceptable response times for various priority level calls.

Fire Protection Services

Fire protection services within San Diego County are provided by numerous service providers including fire protection districts and city-run fire departments. Watershed and wildland fire protection in the County are provided by the California Department of Forestry and Fire Protection and federal wildlands are protected by the United States Forest Service (USFS). Each fire protection service provider has performance measures with regard to acceptable response times for various priority level calls.

Park and Recreation

Individual jurisdictions within the County (18 cities and the County of San Diego) have Park and Recreation departments which plan, develop, operate, and maintain park and
recreation facilities. Many jurisdictions have requirements that park and recreation facilities be provided based upon park space per capita. These ratios are utilized with regard to park planning and the collection of park fees for development projects.

5.12.2 Methods of Analysis

Water supply, waste management, and school service impacts were analyzed by reviewing the anticipated population increase associated with the increased capture of 46,000 housing units in terms of future water supply and waste management needs. Each residential unit was assumed to have an average of 2.84 persons per unit (SANDAG 2004).

There are no universal water usage rates for residential land uses, since the rate varies by several factors including which local district provides the water and the type and density of the residential use. Additionally, water usage is calculated based on acres of development. At this point, the number of acres that will be developed and/or redeveloped to accommodate the 46,000 additional housing units is unknown. Waste generation rates from the California Integrated Waste Management Board (CIWMB 2003) were used to calculate the increase in generation from the additional housing units. Rates for future student population estimates were used to calculate the increase in students due to the additional population growth.

Impacts to sewer/wastewater systems, police and fire protections services, parks and recreation services and libraries were not quantified in this analysis, rather a qualitative approach was utilized. Since each of these services is provided by numerous service providers/service districts throughout the County, and the character of each service areas differs widely, a qualitative approach was deemed appropriate for these issue areas.

The increase in demand on public services and utility systems in light of the population increase was considered along with the RCP objectives and actions for the issue areas of water supply and waste management. The RCP objectives and actions are presented below:

Public Facilities: Water Supply

Objective: Ensure a safe, sufficient, reliable, and cost-efficient water supply for the San Diego region.
Actions:

1) Continue to implement the San Diego County Water Authority Urban Water Management Plan and Regional Water Facilities Master Plan.

2) Develop and/or implement programs and projects that provide adequate emergency storage and carryover storage needs, add treatment capacity to satisfy water needs, and develop seawater desalination facilities.

3) Maximize water resources through diversification strategies such as transfer agreements, water recycling, and reclamation, seawater desalination, and sustainable groundwater development.

4) Create opportunities to coordinate water supply strategies with areas beyond our jurisdictional boundaries.

5) Develop allocation plans for potential future water shortages, such as those caused by drought, earthquakes, terrorist attacks, or diminished water treatment capacity.

6) Promote and implement water efficiency and conservation techniques.

7) Implement programs to educate the general public and the business community on the importance of efficient water use and water conservation methods.

Borders: Water Supply

Objectives:

1) Improve coordination of water planning with Orange, Riverside, and Imperial Counties, tribal governments, and Baja California.

2) Collaboratively promote conservation and efficient use of water within the binational and interregional region.

3) Enhance the reliability of the greater border region’s water supplies.

4) Site water facilities in a safe and equitable manner.

Actions:

1) Maximize border region water resources through diversification strategies such as transfer agreements, water recycling and reclamation, seawater desalination, and sustainable groundwater development.
2) Support the ability of the borders communities to transfer water supplies that mutually meet their needs.

3) Work with the borders communities to develop programs to promote the conservation and efficient use of water.

4) Support Mexican water agencies in their efforts to assure water reliability for the Northern Baja California region.

5) Coordinate long term water planning with surrounding counties and tribal governments.

6) Analyze and address the potential impacts of water supply infrastructure investments on surrounding communities.

7) Site water facilities in a manner that protects the health and safety of residents of all borders communities.

**Public Facilities: Waste Management**

**Objectives:**
1) Minimize the need for additional landfills and provide economically and environmentally sound resource recovery, management, and disposal facility.

2) Exceed the state-mandated 50 percent waste stream diversion rate, and work toward a 75 percent diversion rate. **Deleted: by the year 2005**

**Actions:**
1) Use the Siting Element of the Countywide Integrated Waste Management Plan as a guide to locate facilities to meet the region’s future disposal needs.

2) Identify and secure an appropriate and coordinated network of sites for recycling, resources recovery, composting facilities, and transfer stations.

3) Site waste disposal facilities in a manner that protects public health and safety and does not disproportionately negatively affect lower income and minority communities.

4) Significantly reduce the waste generated within the region by encouraging the use of products with less packaging and the reuse of existing resources. **Deleted: and incentivizing the redesign of product**
5) Implement, promote, and provide incentives for composting, recycling, construction and demolition and household hazardous waste material collection programs.

6) Develop public education and industry training programs to encourage waste reduction and resource recovery.

5.12.3 Significance Criteria

The RCP would have a significant impact on public services and utility systems if the project would:

Regional and Local

- Promote growth patterns resulting in the need for and/or provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain service ratios, response times, or other performance objectives for any of the following public services or utilities: water, sewer, waste management, education, police, fire, parks, libraries;

- Result in development and population growth that exceeds existing water supply or resources of affected agencies;

5.12.4 Impact Analysis

Would the RCP promote growth patterns requiring the construction of new water treatment facilities or expansion of existing facilities, the construction of which would cause a significant impact?

Overall, implementation of the RCP will increase density in areas currently using public facilities and utility systems, not reduce it. Any expansion or construction of new water treatment facilities or expansion of existing facilities would be caused by an increase in population over and above that projected in the regional growth forecast, not a reduction in density. By increasing the density in areas currently urbanized, the need may result for infrastructure expansion. Most of the infrastructure already exists and expansion would not likely result in significant site specific impacts.

If future growth patterns result in development outside of the SGOA, the potential exists that new water treatment facilities may be required. The environmental impacts of these...
facilities would need to be addressed during project-specific environmental review. The development of these new facilities under this scenario would result in a significant impact.

**Would implementation of the RCP result in development and population growth that exceeds existing water supply or resources of affected agencies?**

Implementation of the RCP would result in a population increase in Year 2030 of approximately 130,640 higher than the number anticipated under the existing general plans. If the RCP is approved, SANDAG will continue to modify the growth forecast information to include the additional housing units and population as jurisdictions amend their land use plans. Consistent with the MOA between SDCWA and SANDAG, SDCWA will generate a revised water demand forecast and evaluate supplies based upon the revised population forecast numbers.

The SDCWA has commented that the Regional Water Facilities Master Plan is flexible enough to allow for the sizing and timing of water supplies to be adjusted to meet the demand whether it increases or decreases from the Year 2020 forecast numbers (see response to comment letter N). Therefore, adequate water supplies are expected to meet the additional need anticipated with implementation of the RCP. The impact to water supply has been identified as potentially significant, since the future water forecast modeling has not been done, however, this impact will be reduced to below a level of significance through the implementation of mitigation measure ServSys-1.

**Would the RCP promote growth patterns requiring the construction of new sewer or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause a significant impact?**

The planning, development, operation and maintenance of sewer and wastewater treatment facilities and conveyances is the responsibility of local jurisdictions and service providers. Because of this, the RCP does not make specific recommendations with regard to sewer and wastewater services. Nonetheless, it is appropriate to discuss the provision of these services in the context of the additional housing units proposed under the RCP.

Implementation of the RCP would result in a population increase in Year 2030 of approximately 130,640 higher than the number anticipated under the existing general plans. This represents an approximate 3 percent increase. This represents an additional demand on existing sewer/wastewater treatment facilities. Since many of the additional

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**Deleted:** Future water demand in the San Diego region was modeled by the SDCWA using the preliminary 2030 regional forecast numbers prepared by SANDAG. Based upon the work done by SANDAG, municipal, industrial, and agricultural uses are anticipated to require 872,400 acre-feet per year (SDCWA 2002). The water demand imparted by the increase in population from implementation of the RCP represents an incremental increase in the amount of water needed in the future. Since the exact location of these new housing units is unknown, it cannot be determined if the existing infrastructure (pipelines, pump stations, treatment facilities) will be adequate to service the additional population, or if new facilities will be required. Therefore, the impact is identified as potentially significant. ¶

Implementation of the RCP would result in a population increase in Year 2030 of 131,600 higher than the number anticipated under the existing general plans. This represents an approximate 3 percent increase. SDCWA’s Regional Water Facilities Master Plan indicates that there is adequate water supply to serve the region until 2030; however, this forecast was based upon population numbers that did not take into account the addition of housing units under the RCP. This represents a significant water supply impact. ¶

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housing units proposed under the RCP will be within existing urban areas, there is a possibility that existing infrastructure may not be sized appropriately to accommodate the increase of wastewater. Localized pipeline upgrades may be required. This represents a significant impact. It is important to note that general population growth within San Diego County would require expansion of sewer/wastewater treatment facilities, but implementation of the RCP further increases the need for new or expanded facilities.

*Would the RCP promote growth patterns requiring the construction of solid waste disposal facilities or expansion of existing facilities, the construction of which would cause a significant impact?*

Using an average waste generation rate of 1.8 tons/year for each dwelling unit, an increase of 46,000 housing units would result in an increase of waste generation of 85,775 tons/year. This amount does not take into consideration diversion, such as recycling. San Diego currently has a diversion rate of approximately 48 percent (SANDAG 2003a). Therefore, taking into account waste diversion, the addition of 46,000 housing units would result in an increase of landfill-destination waste to 44,603 tons/year.

Since landfill capacity is going to be a significant issue facing the San Diego region with or without adoption of the RCP, the addition of 44 tons/year of waste per year to the landfill is considered significant. Permitting for a landfill at Gregory Canyon is underway, and the landfill is anticipated to have a 30-year life span. However, between now and 2030, the majority of the currently permitted landfills will reach capacity. In conclusion, the RCP will have a significant impact on landfill capacity.

*Would the RCP promote growth patterns requiring the construction of educational facilities or expansion of existing facilities, the construction of which would cause a significant impact?*

The planning and siting of elementary schools and community colleges is primarily a local (district-level) responsibility, and the planning and siting of universities is the responsibility of the state. Because of this, the RCP does not make specific recommendations with regard to schools. Nonetheless, it is appropriate to discuss schools in the context of the additional housing units proposed under the RCP, and the resulting impact on public schools.

Individual school districts use student generation rates for long range planning. These rates assign a student generation factor to each housing unit. Generation rates are derived
from a variety of factors including the type of housing (multi family vs. single family), the grade level considered, neighborhood characteristics, and whether the residential development is new or existing. For this analysis, generation rates were considered from the San Diego City Schools and the San Marcos Unified School District, and these generation rates were averaged, and then applied to the 46,000 housing units proposed under the RCP.

Table 5.12-1 summarizes the anticipated number of students that will be generated by residential development that will take place between 2003 and 2030. This table considers both a without RCP and a with RCP scenario.

As shown in Table 5.12-1, future growth in the San Diego region will result in an increase in students that need to be accommodated in county schools. Based upon the generation rates, future growth with implementation of the RCP is anticipated to generate approximately 150,720 students at the K-12 level. This would represent a significant impact on the existing school facilities. State law requires that all future development projects pay school fees. These fees are used to expand district facilities and resources to reduce the impact. It should be noted that there would be a concurrent decrease in students in jurisdictions outside San Diego County.

Table 5.12-1 also compares the number of students generated without and with the implementation of the RCP. The RCP, which calls for the development of 46,000 additional housing units, will result in an increase of approximately 19,320 students compared to the existing plans. These additional students will require further expansion of school facilities, even more so than would be required under the existing land use plans. This represents a significant impact.

Would the RCP promote growth patterns affecting the ability of police or sheriff to adequately provide public safety (i.e., maintain acceptable response times)?

The planning of police/sheriff services and the siting of police/sheriff facilities is the responsibility of local jurisdictions. Because of this, the RCP does not make specific recommendations with regard to police/sheriff protection. Nonetheless, it is appropriate to discuss the provision of these services in the context of the additional housing units proposed under the RCP.
The construction of additional housing units and the increase in population associated with the RCP will result in an increase the number of police officers and sheriff’s deputies that are required to adequately protect and serve the public. To maintain adequate response times for priority calls, additional staff and expanded facilities will be required. This is a significant impact. It is recognized that population growth associated with the existing general plans will impact police and sheriff protections services, but the RCP further increases that need.

Would the RCP promote growth patterns affecting the ability of fire service providers to adequately provide public safety (i.e., maintain acceptable response times)?

The planning of fire protection services and the siting of fire-related facilities is the responsibility of local jurisdictions. Because of this, the RCP does not make specific recommendations with regard to fire protection. Nonetheless, it is appropriate to discuss the provision of these services in the context of the additional housing units proposed under the RCP.

The construction of additional housing units and the increase in population associated with the RCP will result in an increase the number of fire protection staff that are
Public Services/Utility Systems

required to adequately protect structures and assist in medical emergencies. To maintain adequate responses times for priority calls, additional staff and expanded facilities will be required. This is a significant impact. It is recognized that population growth associated with the existing general plans will impact fire protections services, but the RCP further increases that need.

Would the RCP promote growth patterns requiring the construction of park and recreation facilities or expansion of existing facilities, the construction of which would cause a significant impact?

The planning, development, operation, and maintenance of park and recreation services are the responsibility of local jurisdictions. Because of this, the RCP does not make specific recommendations with regard to fire protection. Nonetheless, it is appropriate to discuss the provision of these services in the context of the additional housing units proposed under the RCP.

Many local jurisdictions maintain a ratio of population to park space. Therefore, a proportionate population increase in a given jurisdiction results in an increase in the need for parklands in that jurisdiction. Additionally, an increase in population results in a corresponding increase in the need for recreation services and facilities. Since many of the areas designated for intensification are within currently urbanized areas, the RCP would create additional demand in areas where current park and recreation services are at a deficit, the provision of additional park space may be infeasible. This represents a significant impact. It is recognized that future population growth associated with the existing general plans will impact park and recreation services, but the RCP further increases that need.

5.12.5 Mitigation Measures

ServSys-1  Water, sewer/wastewater, and landfill providers shall update plans to ensure adequate facilities are available to meet projected locations and intensities of growth.

ServSys-2  Future construction shall incorporate water efficient appliances (e.g., low-flush toilets and shower heads) and xeriscaping and/or drought tolerant plant species.

ServSys-3  Recycled materials shall be used in future construction.
ServSys-4  Future development projects will be required to prepare project-level environmental analyses, including an analysis of water supply and incorporate measures to reduce demand.

ServSys-5  Future projects shall be required to pay School Mitigation Fees pursuant to California Education Code Section 17620 and Government Code Section 65995. These fees will assist in funding school services within the applicable school district.

ServSys-6  Future projects shall be required to pay public facility finance fees in accordance with the requirements of the jurisdiction in which the project is proposed. These fees will assist in funding additional police, sheriff, and fire protection services, as well as expanding and park/recreation services.

5.12.6 Summary of Impacts With Significance Conclusions

The increase in population associated with implementation of the RCP may result in the need for new or expanded water facilities. This represents a potentially significant impact that can be mitigated to below a level of significance through implementation of mitigation measures ServSys-1 and ServSys-2.

Any increase in population associated with implementation of the RCP will result in an increase in the need for potable water. This represents a potentially significant impact that can be mitigated to below a level of significance through implementation of mitigation measures ServSys-1, ServSys-2, and ServSys-4.

The increase in population associated with implementation of the RCP may result in the need for new or expanded sewer/wastewater treatment facilities. This represents a significant impact. General population growth within San Diego County would require expansion of sewer/wastewater treatment facilities, but implementation of the RCP further increases the need for new or expanded facilities. Implementation of mitigation measures ServSys-1 and ServSys-2 would mitigate these impacts to below a level of significance.

The increase in population associated with implementation of the RCP will result in an increase in the rate of waste going to the landfill. Since many of the local landfills will reach capacity during the lifetime of the RCP, this represents a significant impact. General population growth within San Diego County would require expansion of landfill capacities.
facilities, but implementation of the RCP further increases the need for new or expanded facilities. While this increase will further impact San Diego County service providers, it will result in proportionate reductions in impacts to Riverside, Orange, and Imperial counties and in Baja California. Implementation of mitigation measures ServSys-1 and ServSys-3 would reduce these impacts to below a level of significance.

The increase in population associated with implementation of the RCP will require new or expanded school facilities. This represents a significant impact. General population growth within San Diego County would require the expansion of school facilities, but implementation of the RCP further increases the need for new or expanded facilities. While this increase will further impact San Diego County service providers, it will result in proportionate reductions in impacts to Riverside, Orange, and Imperial counties and in Baja California. Implementation of mitigation measure ServSys-5 would reduce this impact to below a level of significance.

The increase in population associated with implementation of the RCP will require new and expanded police and sheriff facilities and additional police officers and sheriff’s deputies. This represents a significant impact. General population growth within San Diego County would require the expansion of police and sheriff services, but implementation of the RCP further increases the need for new or expanded facilities. While this increase will further impact San Diego County service providers, it will result in proportionate reductions in impacts to Riverside, Orange, and Imperial counties and in Baja California. Implementation of mitigation measure ServSys-6 would reduce this impact to below a level of significance.

The increase in population associated with implementation of the RCP will require new and expanded fire protection facilities and additional fire protection staff. This represents a significant impact. General population growth within San Diego County would require the expansion of fire protection services, but implementation of the RCP further increases the need for new or expanded services. While this increase will further impact San Diego County service providers, it will result in proportionate reductions in impacts to Riverside, Orange, and Imperial counties and in Baja California. Implementation of mitigation measure ServSys-6 would reduce this impact to below a level of significance.

The increase associated with implementation of the RCP will require new and expanded park and recreation facilities. This represents a significant impact. General population growth within San Diego County would require the expansion of park and recreation facilities and services, but implementation of the RCP further increases the need for these new services. While this increase will further impact San Diego County service
providers, it will result in proportionate reductions in impacts to Riverside, Orange, and Imperial counties and in Baja California. Implementation of mitigation measure ServSys-6 would reduce this impact to below a level of significance.
6.0 ALTERNATIVES

The California Environmental Quality Act (CEQA) Guidelines require that an EIR evaluate a “reasonable” range of alternatives to a proposed project or a program. Further, these alternatives should “feasibly attain most of the basic objectives of the project.” Under CEQA “feasible” means that the alternatives are “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors” (Section 15346). The EIR need not analyze the alternatives at the same level of detail that it analyzes the project itself, but it must analyze the comparative merits of the alternatives.

The CEQA Guidelines also outline the range of alternatives that the EIR must evaluate. All EIRs must analyze the No Project Alternative. In this PEIR, the No Project Alternative analyzes the future environmental implications of not adopting the RCP. The other alternatives depend on the type and setting of the project, as well as the project goals and objectives. The range of alternatives is governed by the “rule of reason.” This means that an exhaustive analysis of every possible alternative is not warranted; instead the focus is on considering a reasonable range of alternatives that will “foster informed decision making and public participation” (Cal. Code Regs., Title 14, Section 15126.6(a)). The EIR should focus on alternatives that reduce or eliminate the identified impacts of the Proposed Project, even if those alternatives would not achieve all of the project objectives or would be more costly. Where alternatives themselves would result in significant impacts, those impacts must be identified. Finally, the CEQA Guidelines also require each EIR to identify the environmentally superior alternative. The environmentally superior alternative is discussed in Section 6.4.

6.1 Alternatives Considered but Rejected

6.1.1 Alternative Location

The CEQA Guidelines recommend considering an alternative location to reduce potential impacts of a proposed project. The proposed RCP is a plan guiding the growth and development of areas that are influenced by the transportation and funding decisions made by San Diego Association of Governments (SANDAG). Because no other lands are directly influenced by SANDAG's transportation and funding decisions, no alternative location is analyzed.
6.1.2 Directed Smart Growth Alternative

This alternative was initially considered as a means of reducing the overall regional impacts of the Proposed Project. Under this alternative, smart growth would be directed into a few portions of the region. However, this alternative was rejected from further consideration because directing growth to one or a few portions of the region would:

- Not be an efficient use of the regional transportation system;
- Severely increase localized impacts in the selected portion(s) of the region; and
- Be politically infeasible and unlikely to actually occur because the jurisdictions potentially impacted the most by the growth would not likely implement the policies, programs, and land use decisions necessary to achieve such growth.

6.1.3 100 Percent "Capture" Alternative

This alternative was initially considered as a means of further reducing the regional impacts associated with sprawl and the export of the region's housing units. Under this alternative all 93,000 housing units would be captured within the SGÖA. This represents an increase of over 100% in the number of units compared to the Proposed Project. However, this alternative was rejected from further consideration because it is deemed infeasible to capture all 93,000 housing units that would be exported to Riverside, Orange, and Imperial counties, as well as Baja California. Many factors influence housing and commuting patterns, such as people's desires to live in rural areas or near other family members. Additionally, some people will continue to choose to live in an area with lower home prices even if it results in a longer commute to work. These behaviors are unlikely to be influenced by the land use, transportation, and other program decisions made by SANDAG or the local jurisdictions. Therefore, some percentage of the population will still choose to live outside of the region, and their households would not be "captured" even with a more aggressive implementation of the Regional Comprehensive Plan (RCP).

Another reason it was determined to be infeasible to capture all 93,000 units is because the capture of the exported units hinges largely on the participation level of local jurisdictions as they amend their local plans. Capturing all 93,000 units (about double the amount assumed throughout the EIR analysis) would require greater housing growth and densities than would be supported by many of the local jurisdictions, both from an infrastructure and service standpoint and from a political standpoint. For these reasons,
this alternative was determined to be infeasible and was rejected from further analysis in this PEIR.

### 6.1.4 Reduced Economic Growth Alternative

The Reduced Economic Growth Alternative would restrict the amount of employment space available in the region, resulting in a reduction in the number of jobs that locate in the region. This alternative was explored by SANDAG in the document Evaluation of Growth Slowing Policies for the San Diego Region (SANDAG 2001). A simulation was prepared in which an annual limit was placed upon non-residential square footage for a twenty-year period. The results of the simulation did not show a loss in overall employment compared to the baseline forecast. Instead, it was determined that the region would be able to accommodate all baseline growth because of increasing employment densities. Therefore, reducing economic growth in the region was determined to be ineffective because the region would still be able to accommodate employment in existing spaces.

Furthermore, at the time of publication of the 2001 study, no attempts had been made by other communities to restrict a region’s economic growth. The reasons why the reduction of economic growth is not typically pursued include: (1) the loss of sales tax revenue by local governments from decreased commercial development, (2) local economic development agencies encourage industrial and office developments that bring additional jobs to a community, and (3) the connection between job growth and population growth is less obvious than the connection between housing and population. Since local governments have very little experience in restricting economic development, little is known about the potential secondary impacts of implementing restrictions on employment space, beyond theory and simulation (SANDAG 2001). Additionally, this alternative would not specifically meet the goals of the RCP since it does not capture any of the approximately 93,000 housing units that are expected to be exported from the region by 2030 under the currently adopted land use plans. Therefore, this alternative was not considered for further analysis in this Program Environmental Impact Report (PEIR).

### 6.1.5 New Town Alternative

Under this alternative, most of the 46,000 housing units proposed for capture would be located in one or more new towns or communities within San Diego County. Housing densities would vary utilizing a mix of single and multi-family residential products. Commercial uses would need to be provided to accommodate the local residents.
Depending upon the topography, dwelling unit mix, and other environmental constraints (biological, hydrological, cultural resources, etc.), the size of the “parcel” needed to accommodate these uses could range from 10,000 to 15,000 acres. Under the premise that sufficient industrial uses are available in the County, no industrial uses would be proposed. The development of these units would be concentrated in one or more large contiguous areas, rather than located throughout the County in the identified SGOA as indicated by the Proposed Project. The new town(s) would need to be located on one of the major transportation corridors. Some of the sites that could be considered and potential constraints include:

- East of El Cajon along I-8: topographic issues, infrastructure deficiencies and tribal-owned lands presents some of the constraints.

- North of Escondido along I-15, near communities of Bonsall, Pala and Rainbow: topographic issues and infrastructure deficiencies.

- San Pasqual Valley along SR-78: infrastructure deficiencies.


- East of Poway along SR-67 towards Ramona: topographic issues and infrastructure deficiencies

Development in most of these areas would also have environmental issues, such as biological, cultural, visual quality, hydrology, among others. Another serious constraint would be the political acceptability of this alternative to the local community and to local elected officials. Most of these areas support low density development with agricultural uses prevalent.

This alternative was not considered for further analysis in the PEIR since it was determined to be infeasible. It is unlikely that large, contiguous areas would be available for development/redevelopment to accommodate the 46,000 housing units under this alternative. Within San Diego County, large contiguous areas, such as that required to develop this alternative, are expected to be held in public ownership, either as a military base or as a habitat preserve, or to be located in areas that are constrained due to existing topography, the transportation network, or the provision of utilities.
The political reality of implementing this alternative would be difficult to overcome. As to the goals of the RCP, it would reduce the export of units out of the County and accommodate those uses closer to the job location. However, this alternative would promote sprawl. It would create substantial regional and local transportation impacts to an infrastructure not planned for this development. Associated impacts (air, noise, visual, land use, etc.) would also increase. Significant impacts to other infrastructure types (including water, sewer, police and fire protection, schools) would also occur since there is limited infrastructure available in any of these areas. Additionally, even if a new town(s) could be sited in the County, each existing city and county would still be required to plan for its fair share of housing as required by state Housing Element requirements. Thus, there would be no way to guarantee that any particular amount of future housing would actually be limited to the new town(s). For all of the above reasons, this alternative has too many constraints and limited benefits to be considered feasible and has, thus, been eliminated from further consideration.

6.2. Description of Alternatives Analyzed in the PEIR

The following four alternatives are analyzed in the PEIR:

- No Project/Existing Plans
- Smart Growth Opportunity Areas – Reduced Intensity Alternative
- Smart Growth Opportunity Areas – Increased Intensity Alternative
- Urban Growth Boundary Alternative

6.2.1 No Project/Existing Plans Alternative

This alternative is analyzed within this PEIR as it is a required under CEQA Guidelines Section 15126.6(e). According to Section 15126.6(e)(2) of the CEQA Guidelines, which states that the “no project” analysis shall discuss, “... what is reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.” When the project is the revision of an existing land use policy, CEQA Guidelines Section 15126.6(e) (3) (A) states that “the No Project Alternative will be the continuation of the existing plan...into the future.” So, for the purposes of this PEIR, the No Project Alternative represents buildout under the currently adopted plans. It does not represent a “No Build” scenario, whereby no future development would occur.
Alternatives

This alternative assumes that the proposed RCP would not be adopted and implemented. Under this alternative, less smart growth development would occur in the region because no Smart Growth Opportunity Areas (SGOA) would be designated by the RCP, and no infrastructure funds would be specifically directed toward these opportunity areas to encourage smart growth development. As a result, fewer efforts would be made regionally or by local jurisdictions to capture the approximately 46,000 units anticipated to be "exported" from the region by 2030. Instead, the San Diego region would be developed according to the general plans as well as other adopted policies and programs of the 18 cities and county government. The City of Villages (City of San Diego), updated general plans being proposed by the County of San Diego and the City of Chula Vista will, subject to their adoption, implement smart growth within those jurisdictions, whereas the RCP considers smart growth within the entire County. Tables 6.2-1 and 6.2-2 summarize the population, housing, and employment growth expected with implementation of the No Project alternative and the Proposed Project, respectively.

By 2030, approximately 255,000 housing units would be added to the region under this alternative instead of the projected 301,065 units that would be added with adoption and implementation of the RCP. Overall, population and housing growth between 2004 and 2030 would be about 4 percent less when compared to the Proposed Project. The housing units developed under this alternative will likely reflect the mix of housing types, sizes, and densities currently seen in the region, with larger lot developments in the outskirts of communities and higher densities in the urban cores. As shown in Tables 6.2-1 and 6.2-2, slightly less employment opportunities are expected under this alternative. Although there would be approximately 46,000 fewer housing units within San Diego County, these housing units would likely be developed in adjoining Baja California, Riverside County, Orange County and Imperial County, with many of the residents of these exported units still commuting into San Diego County for employment.

Land Use

The No Project/Existing Plans Alternative would result in a less than significant land use impact, since future development would occur in a manner that is consistent with the adopted general plans and land use plans for the various jurisdictions in the San Diego region. Implementation of this alternative would result in a larger amount of undisturbed vacant land, agricultural land, open space or other natural resources being converted to urban uses compared to the Proposed Project. This alternative would not result in conflict with adopted habitat conservation plans, since existing land use plans have been modified.
to reflect these habitat conservation areas nor would this alternative result in a loss of availability of locally important mineral resources. The No Project/Existing Plans Alternative would be considered more sprawl-inducing than the Proposed Project. With regard to localized land use impacts, implementation of this alternative is not anticipated to divide an established community, nor is it anticipated to result in development or other activities that are incompatible with existing development or land uses.

**Population/Housing/Employment**

With implementation of the No Project/Existing Plans Alternative, impacts which may result from housing unit, density and population increases within the SGOA are avoided.
Population and housing will increase under the No Project/Existing Plans Alternative in a manner consistent with the adopted plans, but the additional 46,000 housing units and population would not be realized. Additional housing will not be built in sufficient numbers to support the population. A deficit of 93,000 housing units would occur. Impacts associated with the imbalance would be greater under this scenario than under the Proposed Project (47,000 housing unit deficit).

**Visual Resources**

Implementation of this alternative would reduce some of the visual resources impacts identified for the RCP, since development would be conducted in a manner that is consistent with the existing densities in adopted land use plans. Additionally, development under this alternative is expected to be more consistent with the existing development in a given area. However, under this alternative, future development will continue to occur, and the visual environment will be changed, though the changes are expected to be less than with implementation of the RCP. In summary, implementation of this alternative will result in a significant visual resource impact, but at a level less intensive than those identified for the Proposed Project.

**Transportation/Circulation**

Implementation of the No Project/Existing Plans Alternative would build out the San Diego region in a manner that is consistent with the adopted land use plans in the region. Development under these plans would result in a less compact type of development. This type of development would further exacerbate the degraded roadway conditions in the San Diego region. Additionally, this alternative would not capture any additional housing above the number currently identified in the adopted land use plans. The capture of these additional units, particularly in areas near existing commercial uses, would reduce the commuting distance for some residents in the region. However, implementation of this alternative would reduce some of the localized traffic impacts that are expected with implementation of the Proposed Project, since this alternative would not result in an increase in density in currently developed areas. Future traffic impacts, even under existing general plans, would be significant because numerous roadway segments, intersections, and interchanges will operate at unacceptable levels of service. In summary, when compared to the Proposed Project, this alternative would result in an increase of regional traffic impacts, but reduce the localized traffic impacts.
Air Quality

The No Project/Existing Plans Alternative would not conflict with or obstruct implementation of the applicable Regional Air Quality Management Strategy (RAQS) because the AQMP is based upon, and therefore consistent with, existing general plans. However, as discussed in Section 5.5 of the PEIR, air quality issues are predominantly associated with mobile source emissions. Implementation of this alternative would allow regional traffic congestion to continue to grow. The No Project/Existing Plans Alternative would not encourage the use of more efficient transportation methods to relieve traffic congestion. Similarly, the No Project Alternative would not include future smart growth land use patterns associated with the RCP that could reduce average trip distances and encourage transit use. Without these traffic flow improvements to reduce the amount of vehicles on the roads and the amount of time vehicles spend on roads, pollution created by vehicle emissions would continue to increase. From a regional perspective, air quality emissions would be greater than for the Proposed Project.

Construction activities associated with the No Project/Existing Plans Alternative could impact the region’s air quality. Construction equipment that operates on diesel fuel would emit NOx, CO, ROG, and SO2 into the air during construction activities. Grading and earth moving activities associated with preparation of the site for construction could potentially emit PM10 into the air. These activities could potentially exceed daily emissions standards set by the Air Pollution Control District (APCD). Construction activities associated with the RCP would generate additional vehicle trips by construction workers traveling to and from construction sites and would contribute more harmful emissions to the current level of emissions related to existing Vehicles Miles Traveled (VMT) in the region. These potential impacts related to construction activities associated with the RCP would cease once construction was completed and thus would be short term. However, these impacts would still be significant despite their short duration.

Localized air emissions in the SGOA would not be any greater under the No Project/Existing Plans Alternative than the RCP. Overall, implementation of this alternative will result in significant regional air quality impacts and short-term construction activity impacts.

Noise

Implementation of this alternative would conform to standards established in local general plans, noise ordinances, and applicable standards of other agencies in the San
Diego region. The No Project/Existing Plans Alternative would still include increases in rail activity or the development of more efficient intermodal transportation of goods; however, implementation of this alternative would not increase the exposure of persons to, or generation of excessive ground borne vibration. These improvements are associated with the RTP, which will be implemented with or without approval of the RCP. Environmental impacts of the RTP were discussed in a FEIR (SANDAG 2003b). Development consistent with existing general plans may occur within noise influence zones of various transit facilities (e.g., rail and automobile). There is a potential for significant noise impacts to occur if sensitive land uses are placed in these noise influence zones. However, since this alternative would not emphasize increased urban density, the potential for noise conflicts in dense urban settings are not expected with this alternative. Construction of new roads, consistent with adopted general plans and the RTP, would result in site-specific noise impacts.

**Energy**

Implementation of the No Project/Existing Plans Alternative will have significant energy impacts because it will not implement the energy conservation actions used by the RCP, but will still increase energy demand. These energy conservation actions include: promoting development regulations and design standards to maximize energy efficiency that will reduce the costs associated with energy consumption within the region; promoting local production of cost-effective, environmentally sensitive energy resources, including wind, solar, and geothermal, to reduce our dependence on imported energy; transportation developments that would serve to reduce energy consumption within the San Diego region; and smart growth developments that would reduce the VMT for residents by clustering residential, commercial, and business uses together. Therefore, implementation of the No Project/Existing Plans Alternative will have significant impacts related to energy consumption and greater impacts than those identified for the Proposed Project.

**Geology/Paleontology**

Implementation of this alternative would result in a similar level of impact to geological and paleontological resources as identified for the Proposed Project. Since development would still occur under this alternative, these resources would still be impacted.
Alternatives

Hydrology/Water Resources

The No Project/Existing Plans Alternative would have to conform with existing general plans and, therefore, would not violate any regional, state, or federal water quality standards or waste discharge requirements. As discussed in Section 5.9 of the PEIR, most hydrology and water quality issues are effectively addressed through adherence to state and local codes and/or ordinances. Therefore, implementation of this alternative will not have the potential to significantly impact hydrological resources. Regional growth would still occur and, similar to the Proposed Project, affect storm water runoff. Significant impacts to local storm water drainage systems could occur, as well as an increase in consumption of groundwater resources. Because development under this alternative would be less compact, and because less population growth would occur, these impacts would be proportionately less than those identified for the RCP.

Biological Resources

Implementation of the No Project/Existing Plans Alternative would build out the San Diego region in a manner that is consistent with the adopted land use plans in the region. Development under these plans would result in a less compact, more sprawling, type of development. Sprawling development impacts more native habitats and sensitive species, compared to more compact development. This represents a significant impact. Similar to the Proposed Project, development under this alternative could also result in significant impacts to wildlife movement corridors and aquatic resources. Wildlife movement corridor impacts would be associated with transportation network improvements and utility expansion projects. Aquatic resource impacts would be a result of similar projects plus potential projects such as sand replenishment and desalination that impacts streambeds, riparian vegetation, and beaches and shoreline habitat. Mitigation for these impacts would be similar to the measures identified for the Proposed Project. In summary, the No Project/Existing Plans Alternative results in significant biological resources impacts, and, those impacts are potentially more severe than the biological impacts identified for the Proposed Project.

Cultural Resources

Implementation of the No Project/Existing Plans Alternative would adversely affect both archeological and historical resources. Identification of archaeological resources and many historical resources generally occurs during development proposals undergoing CEQA review. Impacts to these resources would continue to occur as the general plans
are built out. Because the emphasis on this alternative is not on redevelopment in the SGOA, there would be fewer impacts to historical resources (e.g., particularly buildings over 50 years old located in the SGOA) compared to the Proposed Project. However, because more development would occur in undeveloped land, there is a greater potential to impact unidentified archaeological resources.

**Public Services/Utility Systems**

Implementation of this alternative would result in significant impacts to public services and utility systems. Future development consistent with existing plans will still require the expansion or creation of new water, sewer, land fill, school, police protection, fire protection, and park and recreation facilities. Implementation of this alternative would not result in a need for new water entitlement, as current forecasts indicate an adequate water supply in the region until 2030. Although, this alternative results in significant impacts to public services and utility systems, because it would entail less population growth, it would be less impactive than the Proposed Project.

**6.2.2 Smart Growth Opportunity Area – Reduced Intensity Alternative**

This alternative is analyzed within this PEIR as a means of reducing localized impacts associated with land use, visual resources, transportation, air quality, noise, and service systems. This alternative would meet the four project objectives. Specifically, this alternative would identify a preferred approach for regional growth that would allow the region to capture some of the housing units that are expected to be exported from the region. This alternative would encourage sustainable development by making land use decisions and infrastructure investments that are good for the environment. This alternative would also support smart growth through the prioritization of regional transportation funds. Finally, this alternative would achieve fairness and equity in regional planning and development processes.

This alternative assumes that the basic goals, policy objectives, and actions of the RCP would be adopted; however, the future implementation strategies, funding, compacts between jurisdictions, and general plans of the 18 cities and county government would target capture of approximately 25,000 housing units instead of the 46,000 units projected with the Proposed Project. Although this alternative would result in approximately 21,000 fewer housing units in the San Diego region compared to the Proposed Project, these 21,000 housing units would likely be developed in adjoining Baja California,
Riverside County, Orange County, and Imperial County (along with the remainder of the 94,000 units that are not captured), with many of the residents of these exported units still commuting into San Diego County for employment.

Tables 6.2-3 and 6.2-4 summarize the population, housing, and employment growth expected with implementation of the Reduced Intensity alternative and the Proposed Project, respectively. As shown in Tables 6.2-3 and 6.2-4, 25,000 new housing units and 71,000 new persons are projected in the region in 2030 as a result of this Reduced Intensity alternative. This is 21,000 fewer housing units and about 60,000 fewer people than with implementation of the Proposed Project. Less dense housing units and fewer mixed use developments are expected to occur under this alternative. The percentage change in housing and population between 2004 and 2030 is expected to be 2 percent lower with implementation of this alternative when compared to the Proposed Project. As shown in Tables 6.2-3 and 6.2-4, implementation of the Reduced Intensity Alternative is expected to have a minimal difference on the region's employment growth when compared to the Proposed Project.

Table 6.2-3
Population, Housing, and Employment Growth – Year 2030 with Reduced Intensity

<table>
<thead>
<tr>
<th>Growth Factor</th>
<th>Year 2004</th>
<th>Year 2030 With Reduced Intensity RCP</th>
<th>2004 – 2030 Change with Reduced Intensity RCP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Numeric</td>
</tr>
<tr>
<td>Population</td>
<td>2,972,988</td>
<td>3,916,746</td>
<td>943,758</td>
</tr>
<tr>
<td>Housing Units</td>
<td>1,099,071</td>
<td>1,379,136</td>
<td>280,065</td>
</tr>
<tr>
<td>Employment</td>
<td>1,442,214</td>
<td>1,830,630</td>
<td>388,416</td>
</tr>
</tbody>
</table>

Notes:
Reduced Intensity unit growth of 25,000 assumed.
2.84 persons per housing unit assumed for 2030
Each new housing unit was assumed to generate 0.264 service sector jobs. (Matthew Eary, SANDAG Economist. February 2004).
Year 2030 population and housing forecast based on adopted general plans for 18 cities and San Diego County.
Alternatives

Table 6.2-4
Population, Housing and Employment Growth – Year 2030 with Proposed Project

<table>
<thead>
<tr>
<th>Growth Factor</th>
<th>Year 2004</th>
<th>Year 2030 with RCP</th>
<th>2004 – 2030 Change with RCP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Numeric</td>
<td>Percentage</td>
<td>Numeric</td>
</tr>
<tr>
<td>Population</td>
<td>2,972,988</td>
<td>3,985,725</td>
<td>1,012,737</td>
</tr>
<tr>
<td>Housing Units</td>
<td>1,099,071</td>
<td>1,400,136</td>
<td>301,065</td>
</tr>
<tr>
<td>Employment</td>
<td>1,442,214</td>
<td>1,836,174</td>
<td>393,960</td>
</tr>
</tbody>
</table>

Notes:
Reduced Intensity unit growth of 25,000 assumed.
2.84 persons per housing unit assumed for 2030
Each new housing unit was assumed to generate 0.264 service sector jobs. (Matthew Eary, SANDAG Economist. February 2004).

Land Use

Implementation of this alternative would result in similar types of land use impacts compared to the Proposed Project.

Implementation of the SGOA – Reduced Intensity Alternative could result in substantial conflict with the land use planning documents for several jurisdictions in the San Diego region. These documents include general plans, local coastal programs, and the Port Master Plan. These inconsistencies would require the same plan amendments by the jurisdictions as noted for the Proposed Project.

Future development under this alternative will result in conversion of undisturbed vacant land, agricultural land, open space and other natural resources to urban uses. Implementation of this alternative would not be slightly less than the Proposed Project and greater than the No Project/Existing Plans Alternative.

SGOA are generally located in currently developed areas. Implementation of the SGOA-Reduced Intensity Alternative could result in the development that is incompatible with existing development or land uses. Higher densities can result in the location of incompatible land uses, or result in increased noise, lighting and odor impacts. Implementation of this alternative may result in a loss of availability of locally important mineral resources. This represents a significant impact.

Land use impacts associated with this alternative would be significant and require the same mitigation measures identified for the Proposed Project. Residual impacts for some
of the localized land use siting inconsistencies would be reduced through mitigation, particularly as the reduction in density would result in fewer conflicts.

**Population/Housing/Employment**

Implementation of the SGOA- Reduced Intensity Alternative would result in the addition of 25,000 units and a population increase of approximately 71,000 persons. This represents a housing unit, density and population increase of 1.8 percent. A 3 percent increase is considered to be significant; therefore, this alternative would result in a less than significant housing unit, density and population increase. Compared to the Proposed Project, which results in a 3.4 percent increase, this alternative would decrease the impact. Because this alternative would generate less than a 2 percent increase in housing units, density, and population, impacts to population and housing would be less than significant. However, this alternative would not build sufficient additional housing to support the population. There would be no significant impact to employment.

**Visual Resources**

Implementation of this alternative would result in a similar type of visual resource impacts as noted for the Proposed Project.

Roadway improvements consistent with MOBILITY 2030 would still be implemented. Potentially significant impacts could occur if proposed alignments or facilities require large cut and fill slopes or noise barriers, whether in previously undeveloped areas or in already developed urban areas. Careful alignment and design, conformance with local grading ordinances, and installation of landscaping to ensure compatibility with surrounding development would be expected to reduce some impacts to below a level of significance. Proposed rail improvements, such as double-tracking in the coastal corridor, could result in significant visual impacts.

Future development along identified and eligible scenic highway corridors could include buildings which are visible from the highway, and are out of scale with the surrounding built environment. Depending on the severity of the contrast in bulk and scale with the surrounding development, this could represent a potentially significant visual quality impact.
Future development in the region, over the lifetime of the SGOA – Reduced Intensity Alternative, will result a regional increase in the amount of light pollution. This represents a significant impact.

Depending on the location and height of future development adjacent to oceans or bays, there is a potential for public views to these scenic resources to be substantially altered.

Impacts to visual resources would be significant, similar to that identified for the Proposed Project. An incremental reduction in these impacts could occur because fewer developments would be constructed when compared to the Proposed Project. Thus, development would likely be smaller in individual bulk and mass or fewer “nodes” would be built. Visual quality mitigation measures identified for the Proposed Project would be applicable to the alternative and would reduce impacts to below a level of significance.

**Transportation/Circulation**

The SGOA - Reduced Intensity Alternative would capture approximately 20,000 less units within San Diego County as compared to the Proposed Project. Although this would result in fewer units built within San Diego County, it is likely that these units would be built outside San Diego County in areas such as Baja California, Imperial, Orange and Riverside Counties, and residents of these units would commute into San Diego. If this were the case, the average corridor travel time and the percentage of travel in congested periods would likely increase as compared to the Proposed Project since average commute distances would increase, this would result in greater impacts to regional transportation facilities. Implementation of this alternative would also reduce some of the localized impacts identified for the Proposed Project, since the density increases would be at a less intensive level than the Proposed Project. However, localized traffic impacts are still expected.

In summary, implementation of the Reduced Intensity Alternative would have greater regional transportation impacts as compared to the Proposed Project, but would reduce some of the localized traffic impacts. Compared to the No Project/Existing Plans Alternative, this alternative would improve regional roadway conditions and degrade localized roadway conditions. Specific mitigation measures identified for the Proposed Project would be applicable to this alternative; however, similar to the Proposed Project, impacts would be significant and the local level.
Air Quality

Similar to the Proposed Project, construction activities associated with the SGOA Reduced Intensity Alternative could impact the region’s air quality.

Construction equipment that operates on diesel fuel would emit NO\textsubscript{x}, CO, ROG, and SO\textsubscript{2} into the air during construction activities. Grading and earth moving activities associated with preparation of the site for construction could potentially emit PM\textsubscript{10} into the air. These activities could potentially exceed daily emissions standards set by the APCD, thus resulting in a significant impact. Construction activities associated with the RCP would generate additional vehicle trips by construction workers traveling to and from construction sites and would contribute more harmful emissions to the current level of emissions related to the existing VMT in the region. These potential impacts related to construction activities associated with the RCP would cease once construction was completed and thus would be short term. However, these impacts would still be significant despite their short duration. These impacts can be mitigated to a level below significance through the incorporation of the air quality mitigation measure (Air-1) identified for the Proposed Project.

Similar to the Proposed Project, the SGOA – Reduced Intensity Alternative increase urban density through the implementation of smart growth strategies. By increasing urban density, the SGOA – Reduced Intensity Alternative could potentially create hot spots, areas where an increased number of vehicles are idling at roadway intersections releasing emissions and causing CO concentrations to exceed state and federal standards. This typically occurs where intersections are below a Level of Service (LOS) E with atmospheric conditions that do not cause dispersal of pollutants. Because the SGOA – Reduced Intensity Alternative would produce developments covering the same land mass at lower densities than the Proposed Project, the SGOA – Reduced Intensity Alternative will likely create fewer hot spots than the Proposed Project. However, the increased urban density associated with the SGOA – Reduced Intensity Alternative still has the potential to create hot spots, creating a significant air quality impact. Implementation of mitigation measures such as those identified for the Proposed Project (Trans-1) could reduce those impacts to below a level of significance.

Because the SGOA – Reduced Intensity Alternative would use smart growth strategies to a lesser degree than the Proposed Project, implementation of this alternative would not reduce significant impacts to air quality as effectively as the Proposed Project (RCP). The SGOA – Reduced Intensity Alternative would not use smart growth land use patterns
that could reduce average trip distances and encourage transit use to the same degree as the Proposed Project. By not using these traffic flow improvements to reduce the amount of vehicles on the roads and the amount of time vehicles spend on roads to the same degree as the Proposed Project, pollution created by vehicle emissions would be greater than that created by the Proposed Project. Therefore, implementation of the SGOA – Reduced Intensity Alternative will not reduce air quality impacts as effectively as the Proposed Project. All other air quality impacts associated with the SGOA – Reduced Intensity Alternative will be similar to impacts associated with the Proposed Project.

Noise

The SGOA – Reduced Intensity Alternative would create fewer noise impacts than the Proposed Project. Because the SGOA – Reduced Intensity Alternative would not use smart growth strategies to the same degree as the Proposed Project, implementation of the SGOA – Reduced Intensity Alternative would not increase urban density as much as the Proposed Project, and thus, would create fewer noise impacts associated with higher density. All other noise impacts associated with the SGOA – Reduced Intensity Alternative will be similar to impacts associated with the Proposed Project. Noise mitigation measures identified for the Proposed Project would also be applicable to this alternative, and would reduce the impacts to below a level of significance.

Energy

Because the SGOA – Reduced Intensity Alternative would use smart growth strategies to a lesser degree than the Proposed Project, implementation of this alternative would not reduce significant impacts to energy resources as effectively as the Proposed Project. Using smart growth developments that would reduce the vehicle miles traveled for residents by clustering residential, commercial, and business uses together to a lesser degree would not reduce energy consumption as effectively as the Proposed Project. Energy consumption would be less than the No Project/Existing Plans Alternative, but the decrease would not be as great as under the Proposed Project. Therefore, implementation of the SGOA – Reduced Intensity Alternative will not reduce significant impacts related to energy consumption as effectively as the Proposed Project. All other energy consumption impacts associated with the SGOA – Reduced Intensity Alternative will be similar to impacts associated with the Proposed Project.
Alternatives

Geology/Paleontology

Implementation of this alternative would result in a similar level of impact to geological and paleontological resources as the Proposed Project. Under this alternative, development would still occur in the SGOA, it would just be at a less intense density. Therefore, since development would still occur under this alternative, geological and paleontological resources would still be impacted. The geology and paleontology mitigation measures identified for the Proposed Project would also be applicable to this alternative, and would reduce the impact to below a level of significance.

Hydrology/Water Resources

The SGOA – Reduced Intensity Alternative would increase the amount of impervious surfaces in the region to a lesser degree than the Proposed Project, and thus would produce less polluted runoff. Similarly, implementation of this alternative could potentially use smaller amounts of groundwater supplies than the Proposed Project; however, any increased consumption of groundwater would be potentially significant.

Furthermore, implementation of this alternative could potentially contribute less runoff than the Proposed Project and could potentially create less of a strain on the capacity of existing or planned local stormwater drainage systems. Therefore, implementation of the SGOA – Reduced Intensity Alternative could potentially have fewer hydrology and water quality impacts than the Proposed Project. All other hydrology and water quality impacts associated with the SGOA – Reduced Intensity Alternative will be similar to impacts associated with the Proposed Project.

Biological Resources

Implementation of this alternative would result in a similar level of biological resource impact compared to the Proposed Project. Roadway improvements consistent with MOBILITY 2030 would still be implemented under this alternative. Therefore, the transportation-related biological resource impacts identified for the proposed RCP would occur with this alternative as well. Future large-scale transportation projects would potentially result in an impediment to wildlife movement due to habitat fragmentation. This can substantially impact the long-term viability of wildlife populations in the region. Direct impacts from new transportation facilities to sensitive habitat, plants and wetlands could be potentially significant and adverse. Adverse indirect effects to wildlife may also result from noise, light, glare, air pollution, and polluted runoff after facilities are built.
Aside from a reduced dwelling unit capture rate under this alternative, all other policies, goals and objectives identified in the RCP would be implemented. Therefore, future water, sewer and energy development projects are anticipated to have a significant impact on native vegetation, and may impact regional and local wildlife movement corridors. Sand placement, as a means of shoreline preservation, can have a significant effect on wildlife nurseries. SANDAG is currently monitoring the effects of the regional beach sand project, and data indicates that no long-term adverse impacts to marine biological resources have occurred since the project was completed (SANDAG 2003g). The development of seawater desalination facilities as a means of diversifying the regional water supply has the potential to significantly affect marine biological resources. In conclusion, implementation of the SGOA – Reduced Intensity Alternative would result in a similar level of biological impact compared to the Proposed Project. Biological resource mitigation measures identified for the Proposed Project would also be applicable to this alternative and would reduce impacts to below a level of significance.

Cultural Resources

Implementation of this alternative would result in a similar level of impact to cultural resources as the Proposed Project. Under this alternative, development would still occur in the SGOA, but at a lower density. Since development would still occur under this alternative, archaeological and historical resources would still be impacted. Cultural resource mitigation measures identified for the Proposed Project would also be applicable to this alternative. Similar to the Proposed Project, implementation of the mitigation measures would not reduce the impacts to historical resource to below a level of significance.

Public Services/Utility Systems

Implementation of this alternative would still increase the population in the San Diego region above current 2030 projections due to the construction of additional housing units. However, the increase in population under this alternative would not be as great as the increase under the Proposed Project. Thus, the significant water facilities and supply, sewer management, waste management, school service, police and fire protection, and park and recreation impacts identified for the Proposed Project would be lessened under this alternative, but not to below a level of significance. In summary, implementation of this alternative would result in a significant impact to public services and utility systems, but would be less impactive than the Proposed Project. Mitigation measures identified
for the Proposed Project would also be applicable to this alternative, and would reduce the impacts to below a level of significance.

**6.2.3 Smart Growth Opportunity Area – Increased Intensity Alternative**

This alternative is analyzed within this PEIR as a means of further reducing regional land use, transportation, air quality, biological resources, and service system impacts. This alternative would meet the four project objectives. Specifically, this alternative would identify a preferred approach for regional growth that will allow the region to capture the housing units that are expected to be exported from the region. This alternative would encourage sustainable development by making land use decisions and infrastructure investments that are good for the environment. This alternative would also support smart growth through the prioritization of regional transportation funds. Finally, this alternative would achieve fairness and equity in regional planning and development processes.

This alternative assumes that the basic goals, policy objectives, and actions of the RCP would be adopted; however, the future implementation strategies, funding, compacts between jurisdictions, and general plans of the 18 cities and county government would target capture of approximately 75,000 housing units instead of the 46,000 units projected with the Proposed Project. This alternative would result in approximately 29,000 more housing units in the San Diego region compared to the Proposed Project. The development of these additional 29,000 housing units within smart growth opportunity areas and other targeted areas in the region would reduce the number of housing units that would need to be built in adjoining Baja California, Riverside County, Orange County, and Imperial County to serve the San Diego region's workforce.

Tables 6.2-5 and 6.2-6 summarize the population, housing, and employment growth expected with implementation of the SGOA Increased Intensity alternative and the Proposed Project, respectively. As shown in Tables 6.2-5 and 6.2-6, 75,000 new housing units and 213,000 new persons are projected in the region in 2030 as a result of this Increased Intensity alternative. This is 29,000 more housing units and about 82,000 more people than with implementation of the Proposed Project. The percentage change in housing and population between 2004 and 2030 is expected to be 3 percent higher with implementation of this alternative when compared to the Proposed Project. Under this alternative, housing densities will be increased and mixed use and non-residential projects will be developed at greater intensities in the smart growth opportunity areas. As
shown in Tables 6.2-5 and 6.2-6, implementation of the Increased Intensity RCP is expected to have a minimal effect on the region's employment growth when compared to the Proposed Project, and, like the Proposed Project, the increase in employment would be less than significant.

Table 6.2-5
Population, Housing and Employment Growth – Year 2030 with Increased Intensity

<table>
<thead>
<tr>
<th>Growth Factor</th>
<th>Year 2004</th>
<th>Year 2030 With Increased Intensity RCP</th>
<th>2004 – 2030 Change with Increased Intensity RCP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Numeric</td>
<td>Percentage</td>
</tr>
<tr>
<td>Population</td>
<td>2,972,988</td>
<td>4,058,746</td>
<td>1,085,758</td>
</tr>
<tr>
<td>Housing Units</td>
<td>1,099,071</td>
<td>1,429,136</td>
<td>330,065</td>
</tr>
<tr>
<td>Employment</td>
<td>1,442,214</td>
<td>1,843,830</td>
<td>401,616</td>
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</tbody>
</table>

Notes:
Increased Intensity unit growth of 75,000 assumed.
2.84 persons per housing unit assumed for 2030
Each new housing unit was assumed to generate 0.264 service sector jobs. (Matthew Eary, SANDAG Economist. February 2004).
Year 2030 population and housing forecast based on adopted general plans for 18 cities and the County of San Diego.

Table 6.2-6
Population, Housing and Employment Growth – Year 2030 with Proposed Project

<table>
<thead>
<tr>
<th>Growth Factor</th>
<th>Year 2004</th>
<th>Year 2030 with RCP</th>
<th>2004 – 2030 Change with RCP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Numeric</td>
<td>Percentage</td>
</tr>
<tr>
<td>Population</td>
<td>2,972,988</td>
<td>3,985,725</td>
<td>1,012,737</td>
</tr>
<tr>
<td>Housing Units</td>
<td>1,099,071</td>
<td>1,400,136</td>
<td>301,065</td>
</tr>
<tr>
<td>Employment</td>
<td>1,442,214</td>
<td>1,836,174</td>
<td>393,960</td>
</tr>
</tbody>
</table>

Notes:
Increased Intensity unit growth of 75,000 assumed.
2.84 persons per housing unit assumed for 2030
Each new housing unit was assumed to generate 0.264 service sector jobs. (Matthew Eary, SANDAG Economist. February 2004).
Year 2030 population and housing forecast based on adopted general plans for 18 cities and the County of San Diego.
Land Use

This alternative proposes to recapture 75,000 housing units. Implementation of this alternative would result in a greater level of land use impacts compared to the Proposed Project. Implementation of the SGOA – Increased Intensity Alternative could result in significant conflicts with the land use planning documents for several jurisdictions in the San Diego region. These documents include general plans, local coastal programs, and the Port Master Plan. Future development under this alternative will result in impacts to undisturbed vacant land, agricultural land, open space and other natural resources to urban uses. Implementation of the RCP would reduce development in these areas, however, not to below a level of significance. Therefore, implementation of this alternative will result in impacts to these undeveloped lands. Similar to the Proposed Project, this alternative may result in conflicts with adopted habitat conservation plans, as well as potentially resulting in the loss of availability of locally important mineral resources. This alternative would not be described as sprawl inducing.

With regard to localized impacts, implementation of the SGOA-Increased Intensity Alternative could divide established communities similar to the Proposed Project. Implementation of this alternative could also result in development that is incompatible with existing development or land uses, thus resulting in the potential for significant noise, lighting, and/or odor issues. Overall, higher densities proposed under this alternative can result in a greater level of land use impacts compared to the Proposed Project. The same type of mitigation measures identified for the Proposed Project would be required for this alternative.

Population/Housing/Employment

From a regional perspective, the SGOA - Increased Housing Alternative may result in significant population and housing impacts at the regional level. The housing unit, density, and population increases are 5.5 percent under this alternative, which is above the 3 percent significance threshold. This represents a significant impact.

Visual Resources

Implementation of this alternative would result in increased visual resource impacts compared to the Proposed Project.
Roadway improvements consistent with MOBILITY 2030 would still be implemented. Potentially significant impacts could occur if proposed alignments or facilities require large cut and fill slopes or noise barriers, whether in previously undeveloped areas or in already developed urban areas. Careful alignment and design, conformance with local grading ordinances, and installation of landscaping to ensure compatibility with surrounding development would be expected to reduce some impacts to below a level of significance. Proposed rail improvements, such as double-tracking in the coastal corridor, could result in significant visual impacts.

Future development along identified and eligible scenic highway corridors could include buildings which are visible from the highway, and are out of scale with the surrounding built environment. Development under this alternative would be at a more intense level than the proposed RCP. Depending on the severity of the contrast in bulk and scale with the surrounding development, this could represent a potentially significant visual quality impact.

Future development in the region, over the lifetime of the SGOA – Increased Intensity Alternative, will result a regional increase in the amount of light pollution. This represents a significant impact.

Depending on the location and height of future development adjacent to oceans or bays, the potential exists that public views to these scenic resources may be substantially altered under this alternative.

Impacts to visual resources would be significant under this alternative. Furthermore, the impacts are anticipated to be more severe than those identified for the Proposed Project, since density increases would require more construction that is out of scale with the built environment. However, the incorporation of mitigation measures such as those identified for the Proposed Project could reduce the impacts to below a level of significance.

**Transportation/Circulation**

The SGOA - Increased Intensity Alternative would capture approximately 30,000 more units within San Diego County as compared to the Proposed Project. This would result in more units built within San Diego County and would reduce the number of housing units that would need to be built in adjoining Baja California, Riverside County, Orange County, and Imperial County to serve the San Diego region's workforce. In this case, the average corridor travel time and the percentage of travel in congested periods would
likely decrease since overall commute distances would decrease. However, implementation of this alternative would increase the localized traffic impacts identified for the Proposed Project, since the density increases in SGOA would be at a higher level than the Proposed Project.

In summary, implementation of the SGOA-Increased Intensity Alternative could result in a more beneficial regional transportation impact compared to the Proposed Project, but would increase some of the localized traffic impacts. Compared to the No Project/Existing Plans Alternative, this alternative would improve regional roadway conditions and degrade localized roadway conditions. Traffic mitigation measures identified for the Proposed Project would also be applicable to this alternative. Similar to the Proposed Project, even with incorporation of the mitigation measures, there would be unmitigated traffic impacts at the local level.

**Air Quality**

Similar to the Proposed Project, construction activities associated with the SGOA – Increased Intensity Alternative could impact the region’s air quality.

Construction equipment that operates on diesel fuel would emit NO$_x$, CO, ROG, and SO$_2$ into the air during construction activities and grading and earth moving activities associated with preparation of the site for construction could potentially emit PM$_{10}$ into the air. These activities could potentially exceed daily emissions standards set by the APCD. Construction activities associated with the RCP would generate additional vehicle trips by construction workers traveling to and from construction sites and would contribute more harmful emissions to the current level of emissions related to existing VMT in the region. These potential impacts related to construction activities associated with the RCP would cease once construction was completed and thus would be short term. However, these impacts would still be significant despite their short duration. However, mitigation measures could reduce the impacts to below a level of significance.

Because the SGOA – Increased Intensity Alternative would use smart growth strategies to a greater degree than the Proposed Project, the SGOA – Increased Intensity Alternative would reduce significant impacts to air quality more effectively than the Proposed Project. The SGOA – Increased Intensity Alternative would use smart growth land use patterns that could reduce average trip distances and encourage transit use to a greater degree than the Proposed Project. By using these traffic flow improvements to reduce the amount of vehicles on the roads and the amount of time vehicles spend on roads to a
Alternatives

greater degree than the Proposed Project, pollution created by vehicle emissions would be less than that created under the Proposed Project. Therefore, implementation of the SGOA – Increased Intensity Alternative would reduce air quality impacts more effectively than the Proposed Project. All other air quality impacts associated with the SGOA – Increased Intensity Alternative will be similar to impacts associated with the Proposed Project. However, mitigation measures similar to those identified for the Proposed Project could reduce the impacts to below a level of significance.

Noise

The SGOA – Increased Intensity Alternative would create greater noise impacts than the Proposed Project. Because the SGOA – Increased Intensity Alternative would use smart growth strategies to a greater degree than the Proposed Project, implementation of the SGOA – Increased Intensity Alternative would increase urban density more than the Proposed Project, and thus, would create greater noise impacts associated with higher density. All other noise impacts associated with the SGOA – Increased Intensity Alternative will be similar to impacts associated with the Proposed Project. However, the noise mitigation measures identified for the Proposed Project would be applicable and would reduce the impacts to below a level of significance.

Energy

Because the SGOA – Increased Intensity Alternative would use smart growth strategies to an even greater degree than the Proposed Project, the SGOA – Increased Intensity Alternative would result in lesser, though still significant, impacts to energy resources than the Proposed Project. Using smart growth developments that would reduce the vehicle miles travel (VMT) for residents by clustering residential, commercial, and business uses together to an even greater degree than the Proposed Project would further reduce energy consumption. Therefore, implementation of the SGOA – Increased Intensity Alternative will not have significant impacts related to energy consumption. Of all the alternatives considered, this alternative provides the most benefit, however, there would still be significant impacts to energy resources.

Geology/Paleontology

Implementation of this alternative would result in a similar level of impact to geological and paleontological resources as the Proposed Project. Under this alternative, development would still occur in the SGOA, and at a more intense density. Since the
target area for this increased density would still be within the similar impact zone (SGOA) as the Proposed Project, geological and paleontological impacts identified for the RCP would still be applicable to this alternative. Additionally, the geology and paleontology mitigation measures identified for the Proposed Project would be applicable to this alternative, and would reduce the impacts to below a level of significance.

**Hydrology/Water Resources**

The SGOA – Increased Intensity Alternative would increase the amount of impervious surfaces in the region to a greater degree than the Proposed Project would, and thus would produce a more substantial increase in sources of polluted runoff. Similarly, implementation of this alternative could potentially use a larger amount of groundwater supplies than the Proposed Project. Furthermore, implementation of this alternative potentially could contribute more runoff than the Proposed Project and could potentially create more strain on the existing or planned local stormwater drainage systems. Any additional consumption of groundwater would result in significant impacts. Therefore, implementation of the SGOA – Increased Intensity Alternative could potentially have greater hydrology and water quality impacts than the Proposed Project. All other hydrology and water quality impacts associated with the SGOA – Increased Intensity Alternative will be similar to impacts associated with the Proposed Project.

All development associated with the SGOA – Increased Intensity Alternative must comply with federal, state, and local policies, standards, and land use strategies that address water resource issues. These would include programs and regulations of the Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Game (CDFG), local flood control districts, and other local jurisdictions. In general, compliance with these regulations and permit procedures would be effective in avoiding potential impacts to water resources. Specific measures to address surface water, groundwater quality, and flooding will be developed through specific and detailed analyses at the project level. Implementation of the mitigation measures identified for the Proposed Project will reduce all potential impacts to below a level of significance.

**Biological Resources**

Implementation of this alternative would result in similar types of biological resource impacts compared to the Proposed Project.
Roadway improvements consistent with MOBILITY 2030 would still be implemented under this alternative. Therefore, the transportation-related biological resource impacts identified for the proposed RCP would be applicable to this alternative as well. Future large-scale transportation projects would potentially result in an impediment to wildlife movement due to habitat fragmentation. This could substantially impact the long-term viability of wildlife populations in the region. Direct impacts from new transportation facilities (highway, rail) could be potentially significant and adverse to sensitive habitat, plants, and aquatic resources. Adverse indirect effects to wildlife may also result from noise, light, glare, air pollution, and polluted runoff after facilities are built.

Aside from an increased dwelling unit capture rate under this alternative, all other policies, goals and objectives identified in the RCP would be implemented. Therefore, future water, sewer, and energy development projects are anticipated to have a significant impact on native vegetation, and may impact regional and local wildlife movement corridors. Sand placement, as a means of shoreline preservation can have a significant effect on wildlife nurseries. SANDAG is currently monitoring the effects of the regional beach sand project, and data indicates that no long-term adverse impacts to marine biological resources have occurred since the project was completed (SANDAG 2003g). The development of seawater desalination facilities as a means of diversifying the regional water supply has the potentially to significantly affect marine biological resources. In conclusion, implementation of the SGOA – Increased Intensity Alternative would result in a similar level of biological impact and requirements for mitigation compared to the Proposed Project.

Cultural Resources

Implementation of this alternative would result in the potential for a greater level of impact to cultural resources as the Proposed Project. Under this alternative, development would still occur in the SGOA, but at a more intensive density. This alternative would require a larger amount of redevelopment, which has the potential to impact historical resources to a greater extent. Since development would still occur under this alternative, archaeological and historical resources would still be impacted. Cultural resource mitigation measures identified for the Proposed Project would be applicable to this alternative, however, unmitigated impacts to historical resources would still remain.
Figure 6.2-1
San Diego Region
URBAN GROWTH BOUNDARY ALTERNATIVE
- Spaced Rural
- Single Family
- Mobile Homes
- Multiple Family
- Shopping Centers
- Commercial and Office
- Heavy Industry
- Light Industry
- Extractive Industry
- Transp., Commun. and Util.
- Education
- Institutions
- Military
- Commercial Recreation
- Parks
- Intensive Agriculture
- Extensive Agriculture
- Undeveloped
- County Water Authority Boundary

Miles

SANDAG
Public Services/Utility Systems

Implementation of this alternative would further increase the population in the San Diego region above and beyond that identified for the Proposed Project. Thus, the significant public service and utility system impacts identified for the Proposed Project would be further exacerbated under this alternative. In summary, implementation of this alternative would result in potentially significant impacts to water supply, sewer services, landfill capacity, schools, police and fire protection, and park and recreation services. Although this alternative is more impactive than the Proposed Project, incorporation of the mitigation measures identified for the Proposed Project would reduce this impact to below a level of significance.

6.2.4 Urban Growth Boundary Alternative

This alternative is analyzed within this PEIR in response to comments received during the Notice of Preparation (NOP) period. This alternative identifies an urban-growth boundary for the San Diego region. An urban growth boundary delineates the limits of urban growth to create a clear edge of where urban-scale development can and cannot occur. Urban growth boundaries are usually considered long-term growth-management tools.

The boundary considered in this alternative coincides with the existing San Diego County Water Authority (SDCWA) service area boundary. As shown in Figure 6.2-1, the boundary extends from the international border with Mexico in the south to Orange and Riverside counties in the north. The Pacific Ocean forms the western edge of the boundary and the coastal foothills generally provide the eastern boundary. Under this alternative, future urban development within the San Diego region would be contained within the SDCWA service area boundary. Additionally, the 46,000 “captured” housing units identified as part of the Proposed Project would also be developed within the SDCWA service area boundary. The boundary includes the 18 incorporated cities in San Diego, as well as other locations including, but not limited to, Valley Center, Fallbrook, Ramona, Alpine, and Lakeside.

This alternative assumes that the basic goals, policy objectives, and actions of the RCP would be adopted, with the main difference being that the captured units would not specifically be developed in the SGOA identified for the Proposed Project, but rather dispersed within the SDCWA service area boundary.
Alternatives

Land Use

The Urban Growth Boundary Alternative would result in a significant land use impact, since future development would occur in a manner that is inconsistent with the adopted general plans and land use plans for the various jurisdictions in the San Diego region. Implementation of this alternative would result in a larger amount of undisturbed vacant land, agricultural land, open space or other natural resources being converted to urban uses compared to the Proposed Project. The expectation is that this alternative would comply with adopted habitat conservation plans; however, depending on the location of development under this alternative, some impacts to these plans could occur. The Urban Growth Boundary Alternative would be considered more sprawl-inducing than the Proposed Project, since this alternative identifies a larger area for placement of the additional captured units. With regard to localized land use impacts, implementation of this alternative is not anticipated to divide an established community. It is not anticipated to result in development or other activities that are incompatible with existing development or land uses with the exception of potentially proposing urban uses in the vicinity of agricultural uses. Placing urban uses in the proximity to active agricultural may result in significant land use conflicts. Significant land use impacts identified under this alternative can be reduced to below a level of significance with incorporation of the land use mitigation measures identified for the Proposed Project.

Population/Housing/Employment

Implementation of the Urban Growth Boundary Alternative would result in similar levels of population, housing, and employment impacts as identified for the Proposed Project, since a similar increase in the number of housing units and population could be realized under this alternative. While the location of some of the future housing units may be changed (both units planned under the existing land use plans and the additional 46,000 to be captured), the net number will be the same. This alternative would reduce the significant density impact since more acres would be available for developed uses.

At both the regional and local levels, implementation of this alternative would result in significant population and housing impacts, whereas employment impacts would be less than significant. As noted for the Proposed Project, there are no feasible mitigation measures to reduce these impacts to below a level of significance; therefore the impacts remain significant and unmitigated.
Visual Resources

Implementation of this alternative could result in a similar type of visual resource impacts noted for the Proposed Project. Additionally, there could be an increase in the conversion of vacant land to urban uses, thus resulting in significant impacts.

Roadway improvements consistent with MOBILITY 2030 would still be implemented. Potentially significant impacts could occur if proposed alignments or facilities require large cut and fill slopes or noise barriers, whether in previously undeveloped areas or in already developed urban areas. Careful alignment and design, conformance with local grading ordinances, and installation of landscaping to ensure compatibility with surrounding development would be expected to reduce some impacts to below a level of significance.

Future development along identified and eligible scenic highway corridors could include buildings which are visible from the highway, and are out of scale with the surrounding built environment. Depending on the severity of the contrast in bulk and scale with the surrounding development, this could represent a significant visual quality impact.

Future development in the region, over the lifetime of the Urban Growth Boundary Alternative, will result a regional increase in the amount of light pollution. This represents a significant impact.

Depending on the location and height of future development adjacent to oceans or bays, there is a potential for public views of these scenic resources to be significantly impacted.

Impacts to visual resources could be significant, similar to that identified for the Proposed Project. An incremental reduction in these impacts could occur in the SGOA, because fewer infill developments would be constructed when compared to the Proposed Project. Thus, development would likely be smaller in individual bulk and mass, and it is possible that fewer “nodes” would be built. However, development in vacant areas would result in greater impacts than identified for the Proposed Project.

Transportation/Circulation

Implementation of the Urban Growth Boundary alternative is expected to result in a greater regional traffic impacts than the Proposed Project. This alternative attempts to capture the same number of additional housing units as the Proposed Project, but does not
Alternatives

specifically identify the location of these new units in the SGOA. It is possible that these new housing units would be located further from transit nodes, thereby reducing the incentive to use public transit, and increasing the number of automobile users compared to the Proposed Project. It is expected that incorporation of visual resource mitigation measures identified for the Proposed Project would reduce these impacts to below a level of significance.

This alternative is also expected to have localized traffic impacts, as individual future development and/or redevelopment projects associated with this alternative would increase traffic on the localized roadway network. Individual project specific analyses would be required to identify these impacts, and mitigation measures may be applied to reduce some of these impacts; however, residual significant localized traffic impacts are anticipated under this alternative. Communities located outside the growth boundary, may experience an improvement in localized traffic impacts in the future compared to the Proposed Project, since urban growth would not be targeted in communities outside the growth boundary.

In summary, implementation of the Urban Growth Boundary Alternative would have greater regional transportation impacts as compared to the Proposed Project. Overall, localized impacts are expected to be at a similar level as the Proposed Project, but would reduce some of the localized traffic impacts could be reduced within the SGOA and in the unincorporated country towns that are outside the urban growth boundary. Incorporation of the transportation mitigation measure (Trans-1) identified for the Proposed Project will reduce some of the localized traffic impact. However, this impact will not be reduced to below a level of significance.

Air Quality

Implementation of the Urban Growth Boundary Alternative could likely result in greater mobile source air quality impacts compared to the Proposed Project. Since this alternative does not specifically identify the location of the 46,000 additional housing units, there is no guarantee that it would be located in an area that would facilitate the use of public transit; therefore, more people are expected to be in personal vehicles.

Construction related air quality impacts are anticipated to be similar to the Proposed Project. Grading activities associated with development under this alternative could result in short term PM$_{10}$ impacts. Additionally, equipment emissions from project construction could result in short-term air quality impacts. These impacts are expected with the
Proposed Project as well. The air quality mitigation measure identified for the Proposed Project would apply to this alternative as well, and would reduce the impact to below a level of significance.

Stationary source emissions are expected to be similar to the Proposed Project, since development under this alternative would result in build out of proposed land uses, and the additional 46,000 housing units, with the caveat that the development is accommodated within the identified SDCWA service area boundary. Therefore, stationary source pollution emitting land uses, such as industrial, would still be developed.

In summary, implementation of this alternative would result in a greater impact from mobile source emissions compared to the Proposed Project, and a similar level of construction and stationary source emissions.

**Noise**

Implementation of this alternative could reduce some of the significant noise impacts identified for the Proposed Project. Under this alternative, the additional 46,000 captured housing units could be dispersed throughout the urban growth boundary area. While some high density residential would be expected under this alternative, the expectation is that number of high density residential would be less under this alternative. Therefore, noise conflicts due to an increase in intensity would be reduced with this alternative.

Development near airports could still occur under this alternative. Any development that takes place within the noise contours of existing airports will have a significant impact on those new developments. This impact was also identified for the Proposed Project. The incorporation of noise mitigation measures identified for the Proposed Project would still be applicable to this alternative, and would reduce noise impacts to below a level of significance.

**Energy**

Implementation of the Urban Growth Boundary Alternative is expected to result in an increased level of energy consumption compared to the Proposed Project. Since this alternative will not implement smart growth strategies as efficiently as the Proposed Project, the expectation is that there will be greater fuel consumption due to degraded
traffic conditions and growth in outlying areas. Energy impacts would be significant and unmitigated.

**Geology/Paleontology**

Implementation of this alternative could result in a similar level of impact to geological and paleontological resources as identified for the Proposed Project. Since development would occur in more vacant land under this alternative, these resources would be impacted to a greater degree. The incorporation of mitigation measures identified for the Proposed Project would reduce these impacts to below a level of significance.

**Hydrology/Water Quality**

The Urban Growth Boundary Alternative could increase the amount of impervious surfaces in the region to a greater degree than the Proposed Project would, and thus could produce a more substantial addition of sources of polluted runoff. Implementation of this alternative would use a similar amount of groundwater supplies as the Proposed Project. Furthermore, implementation of this alternative potentially could contribute more runoff than the Proposed Project and could potentially create more strain on the existing or planned local storm water drainage systems. Therefore, implementation of the Urban Growth Boundary Alternative could potentially have greater hydrology and water quality impacts than the Proposed Project. All other hydrology and water quality impacts associated with the Urban Growth Boundary Alternative will be similar to impacts associated with the Proposed Project.

All development associated with this alternative would still need to comply with federal, state, and local policies, standards, and land use strategies that address water resource issues. These would include programs and regulations of the EPA, ACOE, RWQCB, CDFG, local flood control districts, and other local jurisdictions. In general, compliance with these regulations and permit procedures would be effective in avoiding potential impacts to hydrology.

**Biological Resources**

Implementation of this alternative could result in a similar level of biological resource impact compared to the Proposed Project. Future large-scale transportation projects necessary to provide access to the new developer would potentially result in an impediment to wildlife movement due to habitat fragmentation. This can substantially
Alternatives

impact the long-term viability of wildlife populations in the region. Direct impacts from new transportation facilities (highway, rail) could be potentially significant and adverse to sensitive habitat, plants and wetlands. Adverse indirect effects to wildlife may also result from noise, light, glare, air pollution, and polluted runoff after facilities are built.

Additional vacant land would be converted, resulting in greater degradation of biological resources. Aside from the implementation of a regional urban growth boundary and addition of captured units within that boundary, all other policies, goals and objectives identified in the RCP would be implemented. Therefore, future water, sewer and energy development projects are anticipated to have a significant impact on native vegetation, and may impact regional and local wildlife movement corridors. Sand placement, as a means of shoreline preservation can have a significant effect on wildlife nurseries. The development of seawater desalination facilities as a means of diversifying the regional water supply has the potential to significantly affect marine biological resources. In conclusion, implementation of the Urban Growth Boundary Alternative would result in a greater level of biological impact compared to the Proposed Project. Incorporation of the biological resource mitigation measures identified for the Proposed Project will reduce some of the biological resource impacts. However, not all impacts will be reduced to below a level of significance.

Cultural Resources

Implementation of the Urban Growth Boundary Alternative would adversely affect both archeological and historical resources. Identification of archaeological resources and many historical resources generally occurs during development proposals undergoing CEQA review. Impacts to these resources would continue to occur as the region is built out within the identified urban growth boundary. Because the emphasis on this alternative is not on redevelopment in the SGOA, there would be fewer impacts to historical resources (e.g., particularly buildings over 50 years old located in the SGOA) compared to the Proposed Project. However, because additional vacant land would be developed, there is a greater probability that archaeological resources would be significantly impacted. Incorporation of the cultural resource mitigation measures identified for the Proposed Project would reduce the impacts to archaeological and historical resources. However, they would not be reduced to below a level of significance.

Public Services/Utility Systems
Implementation of this alternative would result in significant impacts to public services and utility systems. Future development within the urban growth boundary would still require the expansion or creation of new water, sewer, landfill, school, police protection, fire protection, and park and recreation facilities. Implementation of this alternative is not expected to result in a need for new water entitlement. Therefore, similar to the Proposed Project, impacts to water supply would be less than significant. In summary, this alternative results in significant impacts to public services and utility systems, and these impacts are expected to be at a similar level as the Proposed Project. Incorporation of mitigation measures identified for the Proposed Project would be applicable to this alternative, and would reduce the impacts to below a level of significance.

6.3 Alternatives Comparison

Table 6.3-1 provides a comparison of impacts by issues area for each alternative. Detailed analysis of each environmental issue area is discussed in Sections 6.2.1 through 6.2.4 for each of the alternatives.

6.4 Environmentally Superior Alternative

As noted, the CEQA Guidelines require each EIR to identify the environmentally superior alternative, and if the No Project Alternative is so identified, then another alternative must be selected.

Table 6.3-1 compares the effects of the alternatives to the proposed RCP. A very basic numerical rating system has been created for assessment. Generally, each alternative has been compared and ranked 1 through 5 as “no impact” to “much greater impact.” The Proposed Project was ranked “3” for all issues. Each alternative was then compared to the impact characterized for the Proposed Project and a ranking identified. Based upon this generalized numerical rating system, both the Proposed Project and the SGOA - Reduced Intensity Alternative were determined to be the Environmentally Superior Alternative, because they both have a similar level of impacts overall. Thus, the Proposed Project and SGOA – Reduced Intensity Alternative are equally ranked for designation as environmentally superior.
# Table 6.3-1
Comparison of Impacts by Alternative

<table>
<thead>
<tr>
<th>Issues Area</th>
<th>Proposed Project (RCP)</th>
<th>No Project/Existing Plans</th>
<th>Reduced Intensity Alternative</th>
<th>Increased Intensity Alternative</th>
<th>Urban Growth Boundary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Population/Housing Employment</td>
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<td>4&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Visual Resources</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Transportation - Regional</td>
<td>3</td>
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<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Transportation - Localized</td>
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<td>5</td>
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<td>Noise</td>
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<td>Geology/Paleontology</td>
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<td>Hydrology/Water Resources</td>
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<td>3</td>
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<td>Biological Resources</td>
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<td>Cultural Resources</td>
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<td>3</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

Note:
Comparison is made in terms of the Proposed Project.

1 = No Impact  
2 = Less Impact  
3 = Comparable to Proposed Project  
4 = Greater Impact  
5 = Much Greater Impact

<sup>a</sup> = Ranking established as 4 due to the lower population, housing unit, and density increases compared to the Proposed Project and the fact that the regional housing demand will not be met at the same level as the Proposed Project by implementation of this alternative.

<sup>b</sup> = Ranking established as 3 due to the higher population, housing, and density increases compared to the Proposed Project and the fact that this alternative will better meet the regional housing demands compared to the Proposed Project.

<sup>c</sup> = Ranking established as 3 due to the similar increase in population, housing, and density compared to the Proposed Project.
7.0 CUMULATIVE IMPACTS

A cumulative impact results from the incremental impact of the project when added to other closely related past, present and probable future projects. While an Environmental Impact Report (EIR) should discuss the “severity and likelihood of occurrence” of cumulative impacts, “the discussion need not provide as great detail” as the discussion of the proposed project’s effect but “should be guided by the standard of practicality and reasonableness” (CEQA Guidelines Section 15130). In addition, reasonable mitigation measures should be discussed. However, CEQA acknowledges that “with some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis.”

CEQA Guidelines Section 15130 states that cumulative analyses should either use a list of past, present, and probable future projects or a summary of projections contained in an adopted general plan or related planning document. Due to the programmatic approach of the RCP, the cumulative analysis in the PEIR uses the projections approach. The Program Environmental Impact Report (PEIR) used a study area that included all of San Diego County, and portions of Orange, Riverside, and Imperial counties, as well as the border region of Baja California in the Republic of Mexico. The cumulative analysis for this PEIR focuses on the impacts caused by implementation of the Regional Comprehensive Plan (RCP) to the Southern California/Northern Baja region that extends beyond the study area used in the PEIR. The projected build out of adopted land use plans within this area represents the cumulative projects. Cumulative impacts are analyzed in light of the significance thresholds presented in Section 5.1.3 through 5.12.3 of the PEIR.

7.1 Cumulative Impact Analysis

Land Use

The RCP will reduce the export of housing units to areas outside the County. It is not anticipated that jurisdictions outside San Diego County would adjust their general plans to reflect the reductions in housing demand. It is anticipated that growth in those jurisdictions would proceed at a slower rate than without implementation of the RCP and potential demand for growth in currently rural areas would be reduced.
Cumulative Impacts

When implementation of the RCP is considered along with future growth in the greater Southern California/Northern Baja area, a substantial amount of undisturbed vacant land, agricultural land, open space, or other natural resources will be converted to urban uses. This represents a significant cumulative land use impact. From a cumulative perspective, if this growth is captured within San Diego County, there would be less demand or a delayed demand for vacant, agricultural, open space or other natural areas to be converted to urban uses when compared to the expected conditions under the existing general plans. However, a significant cumulative impact would still occur. Mitigation measures presented in Section 5.1.5 of the PEIR would reduce some of the incremental cumulative impacts associated with the RCP, however, these measures would not reduce the cumulative land use impact to below a level of significance.

Implementation of the RCP is not anticipated to have a significant cumulative impact to adopted habitat conservation plans or community plans. Any impacts to adopted conservation plans would be restricted to San Diego County; however, as noted in Section 5.1.4, these impacts would not be significant because of protective measures already in the Subarea Plans. Because this potential conflict would be focused within San Diego County, and not in the surrounding cumulative analysis area, this impact is not considered to be significant from a cumulative perspective.

When the RCP is considered with other regional planning activities in the greater Southern California/Northern Baja area, implementation of the RCP will not decrease density in the region and create sprawl. Similar to the smart growth planning efforts underway by SANDAG, other regional governments are also developing integrated regional transportation and land use plans. The Southern California Association of Governments (SCAG) recently released the Destination 2030 Regional Transportation Plan (SCAG 2003). The SCAG plan focuses on improving the balance between land use and the current and future transportation system in Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties. Adoption and implementation of the plan will work towards reducing sprawl. The County of Riverside is working on the Riverside County Integrated Plan (RCIP) (Riverside County 2004). The RCIP seeks to integrate land use, transportation, and conservation planning and implementation to develop a consensus for the future development in Riverside County. The General Plan and the conservation planning components of the RCIP have been completed. The Community and Environmental Transportation Acceptability process is underway to identify new highway routes and transit opportunities in Riverside County. In summary, when the RCP is considered with other regional planning activities in the greater Southern
Cumulative Impacts

California/Northern Baja area, the cumulative trend will not promote sprawl through low density development.

**Population/Housing/Employment**

Population, housing, and employment are growing in the Southern California region. Population is growing as a result of birth rates exceeding mortality rates, and immigration rates exceeding emigration rates. As discussed previously, housing in San Diego has not kept pace with population growth. The result is that many people have located in the surrounding counties and are commuting to jobs in San Diego County. Housing throughout Orange, Riverside, and Imperial counties has generally kept pace with population growth. Projections from SCAG (2001) indicate that between now and 2025, with the exception of Orange County, housing will keep up with, or exceed, population growth. In any event, regional population growth and the demand for housing will result in significant cumulative impact. There are no feasible or practicable mitigation measures to reduce the significant cumulative population and housing impacts.

**Visual Resources**

Implementation of the RCP will not result in a cumulatively significant impact to designated or eligible scenic highways in the greater Southern California region. Table 7.1-1 summarizes the officially designated and eligible scenic highways in Imperial, Los Angeles, Orange, Riverside, and San Diego counties. State law requires individual jurisdictions to have a Scenic Highway Element as a component of their general plans and the expectation is that development guidance in these documents will reduce impacts to scenic highways. Therefore, implementation of the RCP is determined to have a less than significant cumulative impact to scenic highways.

The loss of views of significant landscape features and landforms will incrementally increase with implementation of the RCP and general plans within the region. Future development in the greater Southern California/Northern Baja region will continue to gradually impact visual resources which are cumulatively significant.
Table 7.1-1
List of Caltrans Designated or Eligible Scenic Highways
Southern California Region(1)

<table>
<thead>
<tr>
<th>County</th>
<th>Route</th>
<th>Segment Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officially Designated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Los Angeles</td>
<td>SR-2</td>
<td>From near La Canada-Fruitridge north to San Bernardino County line</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>SR-110</td>
<td>Between milepost 25.7 and 31.9 in Los Angeles</td>
</tr>
<tr>
<td>Orange</td>
<td>SR-91</td>
<td>From SR-55 to east of Anaheim city limit</td>
</tr>
<tr>
<td>Riverside</td>
<td>SR-62</td>
<td>From SR-10 north to the San Bernardino County line</td>
</tr>
<tr>
<td>Riverside</td>
<td>SR-74</td>
<td>From west boundary of the San Bernardino National Forest to SR-111</td>
</tr>
<tr>
<td>Riverside</td>
<td>SR-243</td>
<td>From SR-74 to the Banning city limit</td>
</tr>
<tr>
<td>San Diego</td>
<td>SR-78</td>
<td>The portion that passes through Anza Borrego State Park</td>
</tr>
<tr>
<td>San Diego</td>
<td>SR-163</td>
<td>The portion that passes adjacent to Balboa Park</td>
</tr>
<tr>
<td>San Diego</td>
<td>SR-125</td>
<td>The portion from I-8 to SR-94</td>
</tr>
<tr>
<td>Eligible for Designation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imperial</td>
<td>I-8</td>
<td>From San Diego County line to SR-98</td>
</tr>
<tr>
<td>Imperial</td>
<td>SR-78</td>
<td>From San Diego County line to SR-86</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>SR-1</td>
<td>From the Pacific Ocean to east of SR-27</td>
</tr>
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<td>Los Angeles</td>
<td>SR-39</td>
<td>Between SR-2 and I-210</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>SR-126</td>
<td>From Ventura County line to I-210</td>
</tr>
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<td>I-210</td>
<td>Between SR-126 to SR-2</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>SR-118</td>
<td>From Ventura County line to I-405</td>
</tr>
<tr>
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<td>SR-101</td>
<td>From Ventura County line to I-405</td>
</tr>
<tr>
<td>Orange</td>
<td>SR-74</td>
<td>From SR-1 to County line</td>
</tr>
<tr>
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<td>SR-1</td>
<td>From Los Angeles County line to San Diego County line</td>
</tr>
<tr>
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<td>SR-62</td>
<td>From SR-177 to Arizona border</td>
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<td>Riverside</td>
<td>SR-111</td>
<td>From SR-195 to County line</td>
</tr>
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<td>Riverside</td>
<td>SR-71</td>
<td>From Orange County line to SR-91</td>
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<td>SR-91</td>
<td>From SR-71 to I-15</td>
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<td>I-15</td>
<td>From SR-91 to San Diego County line</td>
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<td>SR-74</td>
<td>From Orange County line to east of SR-79</td>
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<td>I-10</td>
<td>From San Bernardino County line to SR-62</td>
</tr>
<tr>
<td>Riverside</td>
<td>SR-111</td>
<td>From I-10 to SR-74</td>
</tr>
<tr>
<td>San Diego</td>
<td>I-5</td>
<td>From the Mexican border to SR-75 at the southern end of San Diego and from San Diego opposite Coronado to SR-74 near San Juan Capistrano</td>
</tr>
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<td>San Diego</td>
<td>I-8</td>
<td>From Sunset Cliffs Boulevard to SR-98 near Coyote Wells</td>
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<td>SR-52</td>
<td>From I-5 east of La Jolla to SR-67 near Santee</td>
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<td>SR-75</td>
<td>From I-5 in Palm City to I-5 in San Diego</td>
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<td>SR-76</td>
<td>From I-5 near Oceanside to SR-79 near Lake Henshaw</td>
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<td>From SR-79 near Santa Ysabel to SR-86 near Julian</td>
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<td>San Diego</td>
<td>SR-79</td>
<td>From I-8 near Descanso to SR-78 near Julian and from SR-78 near Santa Ysabel to SR 371 near Aguanga (Riverside County)</td>
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<td>From Ash Street to I-8</td>
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<td>San Diego</td>
<td>SR-209</td>
<td>From Point Loma to I-5</td>
</tr>
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</table>

Note: (1) Includes Imperial, Los Angeles, Orange, Riverside, and San Diego counties
Source: Caltrans 1999
Cumulative Impacts

Southern California is the site of several observatories. In addition to the Laguna and Palomar observatories discussed in Section 5.1 of the PEIR, the following observatories are within the cumulative study area: Mount Wilson Observatory in the San Gabriel Mountains; Griffith Observatory in the Hollywood area of Los Angeles, Frank P. Brackett Observatory at Pomona College, the Gordon D. Crowell Observatory at Rio Hondo Community College, and the San Fernando Observatory operated by California State University (CSU) Northridge. When future development associated with the RCP is considered with all future development in the greater Southern California/Northern Baja region, impacts to nighttime views are considered to be cumulatively significant.

Implementation of the RCP is not anticipated to result in a cumulatively significant impact with regard to introducing development that is incompatible in shape, form, or intensity with existing development and community character across the cumulative study area. The RCP only guides future development within San Diego County. Development outside the County will be consistent with the existing general plans for the various jurisdictions in Imperial, Los Angeles, Orange, Riverside, and San Diego counties. In summary, implementation of the RCP will result in a cumulatively significant visual resource impact.

Mitigation measures presented in Section 5.3.5 of the PEIR would reduce some of the incremental cumulative impacts associated with the RCP, however, these measures would not reduce the cumulative visual resource impact to below a level of significance.

Transportation/Circulation

Similar to the regional transportation planning efforts undertaken by SANDAG, other regional governments are also developing integrated regional transportation and land use plans. As noted above in the land use discussion, the SCAG recently released the Destination 2030 Regional Transportation Plan (SCAG 2003). The SCAG plan focuses on improving the balance between land use and the current and future transportation system in Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties. Adoption and implementation of the plan will work toward reducing sprawl. In 1999, the County of Riverside began working on the RCIP (Riverside County 2002). The RCIP seeks to integrate land use, transportation, and conservation planning and implementation to develop a consensus for the future development in Riverside County. Regional planning efforts such as these will work to improve the roadway conditions and offer more transportation opportunities in the long term in the Southern California region.
However, the amount of daily vehicle miles traveled at level of service (LOS) E or F is expected to increase with future development in the Southern California/Northern Baja region. While implementation of the RCP would be considered part of the solution towards improving roadway conditions, significant cumulative transportation/circulation impacts would occur over Southern California.

When the RCP is considered with future development in the larger cumulative study area, a change in air traffic patterns or an increase in hazards in the vicinity of local, regional, public or private airports is not expected. In each county containing a public airport, the Airport Land Use Commission (ALUC) is required to assist local agencies in ensuring compatible land uses in the vicinity of existing or proposed airports to coordinate planning at state, regional, and local levels; to prepare and adopt an airport land use plan as required by Public Utilities Code Section 21675; to review plans, regulations, and other actions of local agencies and airport operators; and to review and make recommendations regarding the land uses, building heights, and other issues relating to air navigation safety and promotion of air commerce. It is expected that the work of these individual county agencies would minimize impacts to airports through their review process and reduce any identified impacts to below a level of significance.

Implementation of the RCP may result in project-level impacts to the localized roadway network in San Diego County. Additionally, general development in the Southern California region will lead to degraded conditions on local street systems within the respective communities. Individual project-level CEQA review for all future projects in the cumulative area will include the analysis of traffic impacts. These traffic analyses will include the formulation of mitigation measures to reduce significant traffic impacts. However, not all localized impacts would be mitigated to below a level of significance. Therefore, significant and unmitigated cumulative traffic impacts are noted for the localized street network. The mitigation measure presented in Section 5.4.5 of the PEIR would reduce some of the incremental cumulative impacts associated with the RCP, however, these measures would not reduce the cumulative localized transportation/circulation network impacts to below a level of significance.

Air Quality

Air basins within the cumulative study area include the San Diego Air Basin, South Coast Air Basin, and the Salton Sea Air Basin. The San Diego Air Basin coincides with the San Diego County boundary. Air quality in the San Diego Air Basin is impacted not only by
Cumulative Impacts

local emissions, but also by pollutants transported from other areas – in particular ozone and ozone precursor emissions transported from the South Coast Air Basin and Mexico (CARB 2003). The San Diego Air Basin is in non-attainment for state ozone and PM$_{10}$ standards.

The South Coast Air Basin generally forms a lowland plain bounded by the Pacific Ocean on the west and by mountains on the other three sides. The regional topography, combined with persistent high pressure systems is conducive to the formation of ozone. Pollutant concentrations in parts of the South Coast Air Basin are among the highest in California (CARB 2003). The South Coast Air Basin is currently designated in non-attainment for ozone, PM$_{10}$, and carbon monoxide (CO). The Basin is in attainment for other criteria pollutants (SCAQMD 2003). Recent air quality modeling by the South Coast Air Quality Management District (SCAQMD) indicates that the basin will reach federal attainment of PM$_{10}$ by 2006. However, the basin will not meet the stricter state standards. Additionally, the air basin is required to reach federal ozone attainment by 2010. Based upon modeling conducted by SCAQMD, the air basin will reach the federal attainment by 2010. Additional modeling by SCAQMD indicates that the basin will reach attainment for federal and state CO standards in 2004.

The Salton Sea Air Basin includes all of Imperial County and portions of Riverside County. The Salton Sea Air Basin has exceeded federal and state standards for ozone and PM$_{10}$. The Basin is in attainment for other criteria pollutants (SCAQMD 2003). Based upon modeling prepared by SCAQMD, the Salton Sea Air Basin will significantly benefit from ozone control measures proposed within the South Coast Air Basin. The basin is expected to reach federal one-hour ozone standards by 2007. PM$_{10}$ attainment will be more challenging, since fugitive dust from the arid landscape (“natural sources”) represents the primary source of the PM$_{10}$ pollution.

Since air basins within the cumulative analysis area are anticipated to reach federal attainment for all criteria pollutants over the full development time of the RCP, implementation of the RCP is not considered to conflict or obstruct with the implementation of any air quality management plans.

However, future development projects within the cumulative study area are anticipated to significantly impact the local street network, resulting in the potential for an increase in carbon monoxide (CO) hot spots. While the regional transportation planning efforts underway by SCAG and Riverside County will work to improve traffic flow and provide
more transit opportunities, the expectation is that the number of CO hotspots may increase over time. Therefore, the RCP is considered to have a significant cumulative air quality impact. The traffic mitigation measures presented in Section 5.4.5 of the PEIR would improve some of the localized traffic impacts and, thereby, reduce some of the incremental cumulative CO impacts associated with the RCP, however, these measures would not reduce the localized cumulative air quality to below a level of significance.

**Noise**

Future development in the Southern California/Northern Baja region will create a noisier environment. These future residential, commercial, industrial, transportation, and public facilities projects will not only result in short-term construction-related noise impacts, but the operation of these projects will result in increased cumulative operational noise impacts. All jurisdictions have existing ordinances that dictate periods of construction that avoid significant impacts. Cumulative noise impacts would generally be attributed to increases in traffic volumes. Because all jurisdictions have land use guidelines for placement of future sensitive land uses in noise impact areas, future development would not result in significant impacts. However, cumulative traffic impacts throughout the region could exacerbate noise levels to such a magnitude to significantly affect existing land uses.

Vibration impacts could result from construction activities associated with future development projects and transportation improvement projects in the Southern California/Northern Baja region. Impacts related to construction would typically be considered short-term. **Vibration impacts could also result from future mass transit or transportation facilities.** However, since vibration impacts tend to be localized and incorporate site specific measures for reducing impacts, this impact would be less than significant at the cumulative level.

**Energy**

Future population growth in the Southern California/Northern Baja California region will result in an increase in the need for energy resources. While the use of alternative energy sources is expected to be expanded between now and 2030, the RCP has substantial incentives for conservation. The use of these alternative sources is not expected to significantly reduce the need for non-renewable energy sources. Therefore, the RCP and growth in the surrounding counties and Northern Baja is considered to have a
Cumulative Impacts

cumulatively significant energy impact. There are no feasible or practicable mitigation measures to reduce the significant cumulative energy impacts.

Geology/Paleontology

Much of Southern California and Northern Baja in Mexico is susceptible to impacts from seismic activity. Although seismic activity can cause damage to substandard construction, new designs can significantly reduce potential damage. Using earthquake-resistant designs for new structures minimizes the impact to public safety from seismic events.

Future development associated with the RCP and other cumulative projects may be constructed on geologic formations susceptible to slope failure, and project-specific geotechnical investigations would be necessary to design measures to avoid slope failure. All projects throughout the Southern California region are required to meet certain safety design features which reduce potential geological impacts to a level below significance.

The implementation of the RCP and other cumulative projects would result in disturbance of geologic formations with moderate to high paleontological value through the Southern California region. At the project-specific level, mitigation measure Paleo-1 would be required paleontological surveys within the State of California to determine the resource value for impacted areas. Monitoring by a qualified paleontological monitor would also be a project-specific mitigation measure for projects where grading would occur in formations of moderate to high resource potential. This measure would also be applicable for the cumulative impacts and would reduce any cumulative impacts to regional paleontological resources to below a level of significance.

Hydrology/Water Resources

From a cumulative perspective, implementation of the RCP, when considered with future development in the greater Northern Baja/Southern California region, is not anticipated to violate waste discharge requirements. All future developments are required to conform to all applicable regional, state, and federal water quality standards and waste discharge requirements. Therefore, cumulative impacts regarding waste discharge are considered to be less than significant.

Future development in the cumulative analysis area could cause erosion due to exposed graded surfaces, excavation, stock piling, or boring, and would potentially contribute to
the sediment load in surface waters. Deposition of sediments downstream may be significant if they are introduced into a potable water supply (reservoirs), flood control channels, or wetlands. Increased deposition of sediments into water bodies can result in increased turbidity, clog streambeds, degrade aquatic habitat, and interfere with flow. New impervious surfaces would also increase runoff quantities and velocities during rainstorms, resulting in increased sedimentation. For these reasons, even projects not located directly adjacent to, or crossing a sensitive area, could result in water quality impacts. However, all future development within California will have to comply with all existing regulations pertaining to runoff, and will have to develop Best Management Practices (BMPs) necessary to avoid impacts. Therefore, the cumulative impact will be less than significant.

Future population growth will result in an increased demand on groundwater supplies, particularly in areas that are not served by municipal water sources. While use of groundwater throughout the region must conform to existing regulations pertaining to groundwater, it is possible that future cumulative growth will significantly impact groundwater supplies and/or interfere substantially with groundwater recharge. Mitigation measures Water-3, presented in Section 5.9.5 of the EIR will reduce this impact to below a level of significance.

Future development in the cumulative project area will result in an increase in paving associated with development, thus increasing the amount of impervious surfaces. Increasing the amount of impervious surfaces would result in a larger amount of runoff reaching the existing local stormwater drainage system. Because the existing systems within the cumulative project area were designed for current conditions, the increase in impervious systems and use of the existing or system may cause some deficiencies in the system and constitute a significant impact. In the event that the system develops deficiencies, localized improvements will be required. These measures avoid any significant cumulative impact.

Future developments in the cumulative analysis area that significantly increase a watershed’s impervious paved surfaces or which are constructed in floodplains have a potential for incrementally increasing flood hazards to both adjacent and downstream development. However, these developments must comply with all existing regulations pertaining to flood hazards, and will have to develop BMPs needed to avoid impacts. Furthermore any development associated with the RCP and cumulative projects that places housing or other structures in a 100-year flood plain, impedes or redirects flood
flows, increases populations in areas subject to flooding as a result of levee or dam failure, or increases populations in areas subject to inundation by seiche, tsunami, or mudflow, is required to comply with all existing regulations and must develop BMPs needed to avoid impacts. Therefore no cumulatively significant flooding hazard impacts are anticipated for the Proposed Project.

Biological Resources

Undeveloped land is often less expensive to acquire and develop when compared to redevelopment properties, and many of the past, present, and probable future projects are likely to target undeveloped areas within the region. Implementation of these projects would contribute to the cumulative losses of sensitive habitats throughout the Southern California/Northern Baja area. Of particular concern are the potential loss of coastal sage scrub, wetlands and associated habitat, lagoons, native and non-native grasslands, and southern mixed chaparral. These resources contain a variety of sensitive plant species and provide habitat for sensitive wildlife species. The loss of large open blocks of these habitats or resources and corridors connecting these blocks would contribute to cumulatively significant impacts. Mitigation measures presented in Section 5.10.5 of the PEIR would reduce some of the incremental cumulative impacts associated with the RCP, however, these measures would not reduce this cumulative biological resource impacts to below a level of significance.

Preservation of the region’s biological resources is being addressed through the implementation of the regional habitat plans (MSCP, MHCP or other habitat conservation plans). These plans focus on the region’s predominant habitats (Diegan coastal sage scrub, riparian woodland, southern mixed chaparral, non-native grassland, and southern oak woodland), providing for preservation in large, contiguous areas of habitat in perpetuity. Sensitive resource areas would be managed, restored, and/or revegetated for long-term persistence through implementation of the applicable habitat conservation plan. The conservation of open space and restoration or enhancement of disturbed habitat provided by implementation of the MSCP, MHCP and other plan guidelines and mitigation required of proposed projects would serve to lessen the potential cumulative biological impacts. However, conservation plans throughout Northern Baja, Orange, Imperial, and Riverside counties and portions of San Diego County are either not prepared or not competed. Therefore, significant cumulative impacts could still occur due to the cumulative loss of sensitive resources. Mitigation measures presented in Section 5.10.5 of the PEIR would reduce some of the incremental cumulative impacts associated
with the RCP, however, these measures would not reduce this cumulative biological resource impacts to below a level of significance.

The indirect and cumulative impacts to native habitat and wildlife would likely be more significant than the direct impacts that may result from development projects alone. Ongoing air, noise, light, and water pollution impacts to sensitive wildlife are considered cumulatively significant and will not be fully mitigable. Mitigation measures presented in Section 5.10.5 of the PEIR would reduce some of the incremental cumulative impacts associated with the RCP, however, these measures would not reduce this cumulative biological resource impacts to below a level of significance.

**Cultural Resources**

The loss of historic or prehistoric resources from the past, present, and probable future projects in the Southern California/Northern Baja areas would contribute to cumulatively significant impacts to cultural resources. Although individual projects implement site-specific mitigation programs (excavation, photo-documentation, and some archiving of materials), the overall trend of development in undeveloped areas and redevelopment of historical features is resulting in a loss of these resources. Therefore, implementation of the RCP, in conjunction with other future projects in the cumulative analysis areas will result in a significant cumulative impact to cultural resources. Mitigation measures presented in Section 5.11.5 of the PEIR would reduce some of the incremental cumulative impacts associated with the RCP, however, these measures would not reduce the cumulative cultural resource impacts to below a level of significance.

**Public Services/Utility Systems**

When the RCP is considered with future development projects in the cumulative study area, public services and utility system impacts are significant. Future development will require increased water supplies and water transportation facilities. Additionally, there will be an increased need for landfill services. School services impacts are also expected to be cumulatively significant, since additional schools will be needed as the population grows. Additional population increases will require expanded police and fire protection services, as well as public amenities such as park and recreation centers. Future development projects are required to pay school mitigation fees, which are expected to reduce the school impact to below a level of significance. Additionally, future developers are required to participate in public facility finance funds which offset impacts to police
and fire protection, and parks and recreation. Water and waste management mitigation measures presented in Section 5.12.6 would be applicable to future development projects in the cumulative study area, but would not reduce the cumulative service system impact to below a level of significance.

**Conclusion**

When the RCP is considered with the future build out of adopted land use plans in the cumulative analysis area, there would be significant cumulative impacts in the following issues areas: land use, population/housing, visual resources, transportation/circulation, air quality, noise, energy, groundwater supplies, cultural resources, public services/utility systems. Mitigation measures are not feasible to reduce all of the identified cumulative impacts to below a level of significance due to the magnitude of the population increase. Because local jurisdictions have the legal responsibility to accept populations and provide housing opportunities, it is not feasible to reduce population growth.
8.0 OTHER CONSIDERATIONS REQUIRED BY CEQA

8.1 Growth Inducement

A project is defined as growth inducing when it directly or indirectly fosters economic growth, population growth, or additional housing; when it removes obstacles for growth; and/or when it encourages or facilitates other activities that could significantly affect the environment (CEQA Guidelines Section 15126.2)). Growth inducement is generally dependent on the presence or lack of existing utilities, and municipal or public services. The provision of roadways, utilities, water, and sewer service to a previously unserviced area can induce growth by removing impediments to development. Once services are extended into a project area, economic pressures to develop are anticipated. This is often characterized as urban sprawl. In addition, growth inducement can be defined as growth that makes it feasible to increase the density of development in the surrounding areas.

One of the primary goals of the Regional Comprehensive Plan (RCP) is to increase the number of housing units within identified Smart Growth Opportunity Areas (SGOA) in San Diego County. Therefore, by its very nature (increasing the density of development), the RCP is growth inducing. However, the area the RCP targets for construction of these additional housing units is within existing developed areas. Therefore, it is likely that many SGOA have already established roadways and utilities, as well as water and sewer services. The placement of additional housing units in established areas may require upgrading and resizing of existing infrastructure, including water facilities. The goal of the RCP is to direct population growth in proximity to the projected job base by providing additional housing. Therefore, implementation of the RCP is growth inducing.

8.2 Significant Environmental Effects That Cannot be Avoided if the Proposed Project is Implemented

Implementation of the RCP would result in unavoidable, significant, and irreversible environmental impacts in the following issue areas: land use, regional and local population, regional and local housing, regional density increase, localized transportation/circulation, energy, biological resources, and cultural resources.

Program level mitigation measures are included in this PEIR, including mitigation measures for transportation/circulation and biological resources. Even with implementation of these mitigation measures, transportation/circulation, biological
resource, and cultural resource impacts will remain significant and unmitigated. Although the RCP has provided substantive policies to reduce the impacts of population/housing and the associated energy consumption, population levels will grow at such a rate that CEQA defines these impacts as significant. There are no feasible mitigation measures for the population/housing and energy resource impacts.

8.3 **Significant Irreversible Environmental Changes That Would be Caused by the Proposed Project**

Implementation of the RCP would result in permanent changes to the existing environment. While the RCP focuses development into existing urban areas and along existing or future transportation corridors, there will still be some conversion of undeveloped land to urbanized uses. These conversions are considered to be a permanent change, and would occur directly through construction of development on undeveloped land. Additionally, construction of future projects in developed areas as part of the RCP would result in localized impacts to the circulation network that are not likely to be able to be mitigated due to various issues (e.g., engineering, community character, socio-economic, loss of housing/employment, and economic feasibility). Future development projects associated with the RCP would result in a direct loss of native habitat that supports rate, threatened or endangered species, and impacts to these resources would represent a significant and irreversible environmental change.

Future development projects will require the use of non-renewable energy resources for project construction. This includes the burning of fossil fuels for construction equipment. The use of these non-renewable energy resources is considered to incrementally add to the loss of these resources, however, the impact imparted by the Proposed Project is less than significant.

8.4 **Mandatory Findings of Significance**

The California Environmental Quality Act (CEQA) Guidelines require a discussion of Mandatory Findings of Significance (Section 15065). There are four subsections to this requirement. The exact CEQA language is provided for greater detail.
Does the proposed action have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or pre-history?

Section 5.10 of the PEIR discusses the potential impacts to biological resources. There is a potential for the project to impact biological resources, including sensitive plant and wildlife species through the loss of open space, loss of habitat, and direct construction impacts. No species would be decreased below self-sustaining levels or eliminated, because of measures in the existing adopted habitat conservation plans and implementation of Endangered Species Acts (state and federal). It is reasonable to anticipate that these protective programs are adequate to prevent those impacts. Mitigation measures have been identified to reduce some of these impacts.

However, biological resource impacts will remain significant and unmitigated because it is infeasible to avoid all impacts to rare or endangered species. Due to the broad distribution of the habitat supporting rare and endangered species, a net loss of habitat for these species is anticipated as a result of the RCP. Therefore, the RCP has the potential to degrade and/or threaten the habitat of fish or a wildlife species.

Section 5.11 describes the potential for impacts to cultural resources. This section concludes that there are potentially significant impacts to cultural resources. Mitigation measures proposed in Section 5.11.5 would reduce some these impacts to below a level of significance, however impacts to historical structures would remain significant and unmitigated. Therefore, the RCP may eliminate important examples of California history. The RCP is not anticipated to eliminate important examples of California prehistory.

Does the proposed action have the potential to achieve short-term, for the disadvantage of long-term environmental goals?

The RCP works to meet the region’s long-term planning needs by better connecting transportation and land use policy decisions. The project proposes a plan that would continually improve the San Diego region’s quality of life. The RCP is based upon smart growth land use planning which involves compact, efficient, and environmentally sensitive patterns of development by focusing future growth away from rural areas and
closer to existing and planned job centers and public facilities. This type of land use pattern would avoid future environmental impacts that could result from sprawling development.

**Does the proposed project have impacts that are individually limited, but cumulative considerable?**

As disclosed in Section 7.0 of the PEIR, implementation of the RCP would contribute to cumulatively considerable impacts in the areas of land use, population/housing, visual resources, transportation/circulation, air quality, noise, energy, groundwater supplies, biological resources, cultural resources, and public services/utility systems.

**Does the proposed action have environmental effects which will cause substantial adverse effects on human beings either directly or indirectly?**

Implementation of the RCP will result in significant and unmitigated impacts in the following issue areas: land use, regional and local population, regional and local housing, regional density increase, localized transportation/circulation, energy, biological resources, and cultural resources.
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