5.0 CUMULATIVE IMPACTS

5.1 Cumulative Impact Analysis

This section of the EIR provides an analysis of cumulative impacts of the Draft General Plan, as required by §15130 of the California Environmental Quality Act Guidelines (CEQA Guidelines). In addition, an analysis of the global warming impacts of the Draft General Plan is provided in **Section 5.2**. Cumulative impacts are defined in CEQA Guidelines §15355 as two or more individual effects that together create a considerable environmental impact or that compound or increase other impacts. "A cumulative impact occurs from the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (Guidelines §15355[b]). By requiring an evaluation of cumulative impacts, CEQA attempts to ensure that large-scale environmental impacts will not be ignored.

Consistent with CEQA Guidelines §15130(a), the discussion of cumulative impacts in this EIR focuses on significant and potentially significant cumulative impacts. According to CEQA Guidelines §15130(b), "the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other project contribute rather than the attributes of other projects which do not contribute to the cumulative impact."

The following elements are necessary to an adequate discussion of cumulative impacts (CEQA Guidelines §15130[b]):

- Either: (A) a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency; or (B) a summary of projections contained in an adopted general plan or related planning document that is designed to evaluate regional or area wide conditions. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

- A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available.

- A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable options for mitigating or avoiding any significant cumulative effects of the proposed projects.

In accordance with **Section 15130**(b)(1)(B), the analysis of the cumulative effects of the Draft General Plan relies on the regional growth projections provided by the San Diego Association of Governments' (SANDAG) *2030 Regional Growth Forecast Update* (Regional Growth Forecast). The Regional Growth Forecast provides estimates and forecasts of employment, population, and

housing for the period between 2004 and 2030. The Regional Growth Forecast is available on file at the City of San Diego and available for review at the City Planning & Community Investment Department.

According to the forecast, the population of the City of San Diego is projected to increase by 361,110 persons or approximately 28 percent between 2004 and 2030 to approximately 1,656,257 persons. The population of San Diego County (i.e., the unincorporated areas of the county and all of the incorporated cities) is projected to increase by 971,739 persons or approximately 32 percent between 2004 and 2030 to 3,984,753 persons. The number of housing units is projected to increase by approximately 24 percent within the City and 26 percent within the county during the 2004-2030 period.

Table 5.1-1
Projections for the City of San Diego and San Diego County, 2004 and 2030

	Total Population		Total Housing Units	
	2004	**2030**	**2004**	**2030**
City of San Diego	1,295,147	1,656,257	490,266	610,249
San Diego County	3,013,014	3,984,753	1,095,077	1,383,803

Source: SANDAG 2030 Regional Growth Forecast Update, September 2006.

The following is a discussion of the cumulative impacts of the Draft General Plan. Cumulative impacts are analyzed in light of the significance thresholds presented in **Section 3.1** through **3.17** of this Program EIR, with the exception of global warming impacts. Implementation of the Mitigation Framework identified in **Sections 3.1** through **3.17** would reduce the incremental contribution of the Draft General Plan to cumulative impacts to the extent feasible. Global warming impacts and the associated mitigation framework are provided in **Section 5.2**. The mitigation framework for global warming impacts is provided in **Section 5.2** and not in the Environmental Analysis of **Section 3.0** because the global warming impacts that are anticipated to occur during implementation of the Draft General Plan are cumulative in nature.

Agricultural Resources

The substantial population growth and development within San Diego County since the 1950s involved the conversion of agricultural to urban uses that still continues today. During the period between 2002 and 2004, the latest data available, the amount of land within San Diego County designated as agricultural lands decreased by 16,005 acres. As San Diego County develops in response to projected future population growth, existing agricultural lands—including Prime Farmland, Unique Farmland, Farmland of Statewide Importance, lands under Williamson Act contract, and land zoned for agricultural use—would continue to be converted to urban or other non-agricultural land uses. In addition, the productivity of some agricultural lands would likely be impaired as future urban development encroaches upon existing agricultural lands. Under existing adopted plans as well as the Draft General Plan, less than two percent of the City's land area is within an agricultural land use designation. The City has existing programs to protect the

City's best remaining agricultural soils through lease agreements, such as in the San Pasqual Valley, where agriculture comprises approximately 30 percent of the land use. The Draft General Plan (p. CE-39) calls for continued "retention of productive agricultural lands," "reduction of land use conflicts between agricultural and other land uses," and "retention of the rural agricultural character of the river valleys." While the General Plan has specific goals and policies to protect agricultural land, if future discretionary projects result in the conversion of a substantial amount of existing agricultural land to a non-agricultural use or the impairment of the productivity of existing agricultural land as a result of encroaching urban development, an incremental agricultural resources impact would occur.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude significant incremental agricultural resources impacts. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures. For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.1.4** will be identified to reduce significant project-level incremental impacts to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, potential incremental agricultural resources impacts cannot be precluded, and when viewed in connection with the direct and indirect loss of these resources to urbanization and the impairment of the productivity of existing agricultural lands elsewhere in the County, are considered cumulatively significant and unavoidable.

Air Quality

The San Diego Air Basin (SDAB) is currently designated as a nonattainment area with respect to state and federal standards for ozone, and state standards for $PM_{10,}$ and $PM_{2.5}$. Future development associated with the projected population growth for San Diego County would generate increased air pollutant emissions associated with construction activities, transportation, and stationary sources. As described in **Section 3.2**, construction activities that are needed to support population growth that is anticipated to occur during the course of implementation of the Draft General Plan could result in substantial emissions of PM_{10} and $PM_{2.5}$. In addition, the high propensity for infill and redevelopment activities to occur in accordance with the Draft General Plan could increase the volume of traffic flow at some intersections, which could potentially increase the number of vehicles that are idling at roadways intersections releasing emissions and causing localized concentrations of carbon monoxide or CO hot spots that can harm sensitive receptors near the affected intersection. Since CO hot spots involve concentration of CO and would not increase the total amount of CO in the SDAB, CO hot spots would not have greater cumulative impacts when considered together.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental air quality impacts. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.2.4** will be identified to reduce significant project-level incremental PM_{10} and $PM_{2.5}$ emissions to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental PM_{10} and $PM_{2.5}$ emissions cannot be precluded, and when viewed in connection with PM_{10} and $PM_{2.5}$ emissions from construction activities elsewhere in the county, are considered cumulatively significant and unavoidable.

Biological Resources

The Multiple Species Conservation Program (MSCP), Multiple Habitat Conservation Program (MHCP), and the Multiple Habitat Conservation and Open Space Program collectively contribute to the conservation of vegetation communities and species in San Diego County. However, as San Diego County develops based on projected future population growth and housing units, biological resources not adequately protected by an adopted species or habitat conservation program or other regulations may be adversely affected. While the majority of growth associated with future implementation of the Draft General Plan is expected to occur through infill and redevelopment future development could occur on or adjacent to undeveloped land, which may result in impacts to biological resources, including native habitat, wetlands, wildlife movement, and sensitive species.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental biological resources impacts. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.3.4** will be identified to reduce significant project-level biological resources impacts to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures

cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental biological resources impacts cannot be precluded, and when viewed in connection with regional impacts to unprotected species, habitats and other resources, are considered cumulatively significant and unavoidable.

Geologic Conditions

Projected population growth in the county and in the plan area would increase the number of people potentially exposed to seismic and geologic hazards. Although new development is required to meet certain safety design features that reduce potential impacts associated with seismic and geologic hazards to less than significant, a portion of the increased population in the county and the plan area would be housed in older structures inadequately designed to protect public health from seismic and geologic hazards. Erosion rates would be accelerated by earthwork for new construction. Such impacts are site-specific and do not compound or increase in combination with projected development elsewhere in the county. Nevertheless, development that is anticipated to occur during implementation of the Draft General Plan could result in an incremental increase in the number of people exposed to seismic and geologic hazards.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan and the applicable community plans. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental exposure to seismic and geologic hazards. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.4.4** will be identified to reduce significant project-level seismic and geologic hazards to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, an incremental increase in the number of people exposed to seismic and geologic hazards cannot be precluded, and when viewed in connection with the regional exposure of people to such hazards, is considered cumulatively significant and unavoidable.

Health and Safety

Projected population growth in the county and in the plan area would increase the number of people potentially exposed to health and safety impacts related to hazardous materials transportation safety, hazardous materials in industrial areas or former agricultural lands, physical interference with emergency response or emergency evacuation plans, seiche, tsunami, mudflow, urban and wildland fires, aircraft operations accidents, and flooding. Compliance with existing local, state, and federal regulations pertaining to hazardous materials transportation safety, hazardous materials in industrial areas or former agricultural lands, and with emergency

response and emergency evacuation plans would ensure that cumulative impacts to health and safety related to these issues would be less than significant. Current regulations, development code, and emergency management plans would ensure that the potential impact of seiche, tsunami or mudflows on people and structures within the plan area would not be substantial, and cumulative impacts will be less than significant. The continual review and updating of these documents and regulations would further reduce potential cumulative impacts.

However, due to the county's climate, topography, and native vegetation, some new and existing development would be subject to wildland fires. In addition, despite conformance with adopted Airport Land Use Compatibility Plans, projected population growth within the county and the plan area would increase the population of people living near airports and within aircraft flight paths and, therefore, subject to risks associated with aircraft operations accidents. Cumulative population growth within the county and the plan area would also increase the amount of people within flood prone areas, such as the Mission Valley, La Jolla, and Tijuana River Valley areas. Therefore, population growth occurring during implementation of the Draft General Plan may result in an incremental increase in the number of people exposed to hazards related to urban and wildland fires, aircraft operations accidents, and flooding.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental exposure to hazards related to urban and wildland fires, aircraft operations accidents, and flooding. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental urban and wildland fire impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.5.4** will be identified to reduce significant project-level aircraft operations and flooding hazards to less than significant, however the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. The degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, an incremental increase in the number of people exposed to hazards related to urban and wildland fires cannot be precluded, and when viewed in connection with the regional exposure of people to such hazards, is considered cumulatively significant and unavoidable.

Historic Resources

The demolition or substantial alteration of a resource listed on, or formally determined eligible for, the National Register or California Register, including contributors to National Register or California Register Historic Districts; or listed on the San Diego Register, including contributors to San Diego Register Historic Districts; or that meet the CEQA criteria for historical resources would represent a significant direct impact to historical resources. Additionally, grading,

excavation and other ground disturbing activities associated with development projects that affect significant archaeological sites or traditional cultural properties would represent a significant direct impact to historical resources.

Future development associated with projected county population growth would involve ground disturbing activities such as grading or excavation with the potential to result in impacts to historic and/or archaeological resources or prehistoric human remains. In addition, development within the county could involve impacts associated with the substantial alteration, relocation, or demolition of historic buildings, structures, objects, landscapes, and sites. Archaeological resources and prehistoric human remains may be difficult to detect prior to construction activities, as they are generally located below the ground surface. The potential to affect important archaeological sites and prehistoric human remains exists if a development activity requires even minimal grading and/or excavation. The likelihood of encountering archaeological resources is greatest on sites that have been minimally excavated in the past (e.g., undeveloped parcels, vacant lots and lots containing surface parking; undeveloped areas around historic buildings; under buildings with post, pier, slab, or shallow wall foundations without basements; etc.).

Development that is expected to occur through the implementation of the Draft General Plan and throughout the county could involve ground disturbance activities and substantial alteration, relocation, or demolition of historic buildings, structures, objects, landscapes, and sites that would significantly impact historic and archaeological resources and prehistoric human remains.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude impacts to historic and archaeological resources and prehistoric human remains. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.6.4** will be identified to reduce significant project-level impacts to historic and archaeological resources and prehistoric human remains to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental impacts related to historic and archaeological resources and prehistoric human remains, when viewed in connection with historic resources impacts elsewhere in the county, are considered cumulatively significant and unavoidable.

Hydrology

Future development associated with projected population growth in the county will result in

increased impervious surfaces within the county's watersheds, which will result in hydrologic impacts associated with absorption rates, drainage patterns, or rates of surface runoff. The construction of new development as well as some redevelopment activities, could result in the conversion of natural vegetated pervious groundcover to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Unlike natural vegetated soils, pavement and concrete cannot absorb rainwater. The introduction of new or expanded impermeable surface areas can potentially affect absorption rates, drainage patterns, or the rate of surface runoff. The infill and redevelopment that would be likely to occur under the Draft General Plan could have impacts on existing absorption rates, drainage patterns, or the rate of surface runoff, and would also result in hydrological impacts.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude hydrological impacts. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.7.4** will be identified to reduce significant project-level hydrological impacts to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental hydrological impacts related to absorption rates, drainage patterns, and/or rates of surface runoff, when viewed in connection with hydrological impacts elsewhere in the county, are considered cumulatively significant and unavoidable.

Land Use

Some physical changes to the environment associated with land use impacts are site-specific in nature, as would be the case for incompatibilities with Airport Land Use Plans and physically divided communities. In addition, physical changes to the environment associated with conflicts with the local environmental goals of the adopted community plans, land use designations or any other applicable land use plans of the City would be specific to the Draft General Plan (not cumulative) and are addressed in **Section 3.8**.

Cumulative development within the county would not lead to combined physical environmental effects associated with land use impacts that result in a greater cumulative impact than would occur for each specific location of a potential land use impact, with the potential exception of impacts related to land use incompatibilities. Protective measures within adopted regional, state, and federal environmental plans, including applicable habitat conservation plans and compliance with the mandatory policies and regulations of state or federal agencies would ensure that physical changes to the environment associated with the incremental effect of the Draft General

Plan on adopted regional, state, and federal environmental plans, policies and regulations is not cumulatively significant when viewed in connection with physical changes to the environment associated future regional development in surrounding jurisdictions.

However, a substantial portion of future development within both the plan area and elsewhere in the county is likely to consist of infill and redevelopment, which typically involves increased exposure of sensitive receptors to incompatible land uses such as restaurants, bars, and night clubs, industrial uses, traffic noise, and other adverse physical impacts.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude adverse physical changes to the environment associated with land use impacts. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.8.4** will be identified to reduce significant project-level adverse physical changes to the environment associated with land use impacts to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental adverse physical changes to the environment associated with land use impacts, when viewed in connection with such adverse physical changes associated with land use impacts elsewhere in the county, are considered cumulatively significant and unavoidable.

Mineral Resources

The Surface Mining and Reclamation Act of 1975 (SMARA) requires local jurisdictions to plan for the beneficial management of valuable mineral resources (a more detailed discussion of SMARA is provided in **Section 3.9**). Although SMARA protects lands containing valuable mineral resources from urban development, development associated with future population growth in San Diego County could result in adjacent incompatible land uses that impact the extraction of mineral resources of value to the county and/or state. In addition, a balancing of implementation of Draft General Plan goals and policies addressing habitat and open space preservation, and mineral extraction may lead to the loss of access to significant mineral resources.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude mineral resources impacts. However, for some projects it is possible that adherence to regulations may

not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.9.4** will be identified to reduce significant project-level mineral resources impacts to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental mineral resources impacts, when viewed in connection with incompatible land uses that impact the extraction of valuable mineral resources elsewhere in the county, are considered cumulatively significant and unavoidable.

Noise

As the county develops in response to projected population growth, future residential, commercial, industrial, transportation, and public facilities projects would not only result in short-term construction-related noise impacts, but the operation of these projects would cumulatively increase ambient noise levels in the county. All jurisdictions have existing ordinances that dictate periods of construction to avoid significant impacts. Cumulative noise impacts would generally be associated with improvements to major regional transportation corridors and stationary sources such as industrial land uses. Sensitive receptors within the noise impact zone of major transportation corridors and significant stationary sources of noise could be exposed to noise levels in excess of applicable standards as a result.

Improvements to major regional transportation corridors that are anticipated to occur during implementation of the Draft General Plan could increase the number of trucks and buses operating on regional freeways and arterials and the number of trains operating on regional rail lines, which would result in increased ambient noise levels along these transportation corridors. In addition, improvements in major transportation corridors could increase the number of trucks, buses, and trains within such corridors, which generate more noise per vehicle than automobiles. Furthermore, there is a high propensity for infill and redevelopment near existing and planned transit facilities under the Draft General Plan, which could decrease vehicular congestion and allow vehicular traffic on freeways and major arterials to move faster, potentially increasing the noise produced by vehicular traffic in certain corridors.

The addition of new stationary sources that are anticipated to occur during implementation of the Draft General Plan could, when viewed in connection with new stationary sources elsewhere in the county, cumulatively expose sensitive receptors to elevated ambient noise levels.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude impacts related to the incremental exposure of sensitive receptors to increased ambient noise levels along

major transportation corridors and within the vicinity of new stationary sources. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.10.4** will be identified to reduce significant project-level noise impacts to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, the incremental exposure of sensitive receptors to increased ambient noise levels along major transportation corridors and within the vicinity of new stationary sources, when viewed in connection with the increased number of trucks, buses, and trains along these corridors and new stationary sources associated with development elsewhere in the county, are considered cumulatively significant and unavoidable.

Paleontological Resources

Paleontological resources are a site-specific resource within the planning area of the Draft General Plan, although there is potential for the cumulative loss of such resources throughout the county. As the county continues to develop in response to projected population growth, mass grading, underground parking areas, roadway construction and other activities associated with future development may result in the loss of unique paleontological resources or geologic formations with medium to high fossil bearing potential. Development allowed pursuant to the Draft General Plan would likely involve mass grading, underground parking areas, roadway construction and other activities associated with infill and redevelopment in existing areas and new urban development on previously undeveloped areas, some of which may consist of unique paleontological resources or medium to high fossil bearing potential.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental paleontological resources impacts. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.11.4** will be identified to reduce significant project-level incremental paleontological resources impacts to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental paleontological resources

impacts, when viewed in connection with the mass grading, underground parking, roadway construction and other activities elsewhere in the county, are considered cumulatively significant and unavoidable.

Population and Housing

Population and housing displacement are regional concerns. Due to the limited amount of developable land within San Diego County relative to the amount of projected population growth, a sizeable portion of future development within the county could consist of infill and redevelopment. Infill and redevelopment activities within existing developed areas of the county could result in the displacement of substantial numbers of people or housing, necessitating the construction of replacement housing. According to **Section 3.12**, the infill and redevelopment that would likely occur under the Draft General Plan could result in the displacement of substantial numbers of people or housing, necessitating the construction of replacement housing. Infill and redevelopment that occurs in accordance with the Draft General Plan is anticipated to increase the housing stock, as it would likely be in the form of mixed-use village development on existing sites that predominantly consist of commercial uses. However, existing housing may be redeveloped as a part of village areas, and the new housing may be more expensive than the housing it replaces. This process could lead to the displacement of substantial numbers of people or housing, necessitating the construction of replacement housing. The displacement of people is considered a social and economic impact, but not a physical CEQA impact. The construction of replacement housing has the potential to result in physical environmental impacts.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental impacts related to the incremental displacement of substantial numbers of people or housing necessitating the construction of new housing elsewhere. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.12.4** will be identified to reduce significant project-level incremental impacts related to the incremental displacement of substantial numbers of people or housing necessitating the construction of new housing elsewhere to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, the incremental displacement of substantial numbers of people or housing necessitating the construction of new housing elsewhere, when viewed in connection with displacement caused by infill and redevelopment elsewhere in the county, is considered cumulatively significant and unavoidable.

Public Services and Facilities

Future development in the county would require new or improved public services and facilities infrastructure due to the increased demand for police, fire, schools, libraries, parks and other services associated with development. The construction of new or improved public services and facilities infrastructure could result in physical impacts to the environment. Many agencies such as police and fire departments are party to agency sharing agreements in which agencies from one jurisdiction provide a public service to another jurisdiction under certain circumstances. In addition, some smaller school districts within the City serve students in both the outlying northern, eastern, and southern areas of the plan area and in other jurisdictions in the county. Therefore, impacts associated with the need for new or physically altered public services and facilities are cumulative in nature.

The Draft General Plan calls for future growth to be focused into mixed-use activity centers that are linked to the regional transit system. Implementation of the Plan would result in infill and redevelopment occurring in selected developed areas, which would be identified through the community plan update/amendment process. The Draft General Plan would also guide the development of remaining developable vacant lands. The City's existing built areas are currently served by public services and facilities infrastructure. However, some of the City's existing built areas have existing infrastructure deficiencies and would require capacity improvements to serve the additional population. Therefore, it is anticipated that new or improved public services and facilities infrastructure would be required to meet the needs of the City's future growth occurring through infill and redevelopment as well as on remaining vacant and developable lands.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental impacts associated with new construction of, or improvements to, public services and facilities infrastructure. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.13.4** will be identified to reduce significant project-level incremental impacts associated with new construction of, or improvements to, public services and facilities infrastructure to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental impacts associated with the construction of future public services and facilities infrastructure improvements, when viewed in connection with the increased regional demand for and construction of such improvements, are considered cumulatively significant and unavoidable.

Public Utilities

Future county development will require new or improved public utilities infrastructure due to the increased demand for water, wastewater, energy, solid waste, stormwater, and communications services associated with development. As discussed in **Section 3.14** of this Program EIR, the San Diego County Water Authority's 2005 Urban Water Management Plan (Water Plan) identifies a diverse mix of water resources projected to be developed through 2030 to ensure long-term water supply reliability for the county, including the identification of alternative water supply sources to alleviate the risk of unforeseen water shortages (**Section 3.14** includes discussion of the types of alternative water sources, the amount of water expected from these sources, and the potential environmental impacts of implementing the alternatives). Population growth that is anticipated to occur in accordance with Draft General Plan implementation is projected to have a total water demand of 301,600 AFY in 2030. The projected demand is anticipated to be met based on the 2005 Water Plan. If unforeseen water shortages occur and alternative water sources are not available, development that could significantly impact water supply either individually or cumulatively shall only receive entitlement from the City if it is conditioned with all reasonable mitigation to avoid, minimize, or offset the impact. Therefore, the incremental increase in demand for water associated population growth that occurs in accordance with Draft General Plan implementation is considered a less than significant cumulative impact on regional water supply at this program level of analysis.

Implementation of the Draft General Plan addresses infill and redevelopment, as well as the development of remaining developable vacant lands, as discussed above. The City's existing built areas are currently served by water, solid waste, storm water infrastructure and public utilities infrastructure. However, some of the City's existing built areas have existing infrastructure deficiencies and would require capacity improvements to serve the additional population. Additionally, the General Plan includes policies that would reduce demand for energy, such as focusing growth into mixed use, compact, walkable communities that are linked to the region's existing and planned transit system and increasing the amount of energy-efficient, green buildings in the City. However, since there are no specific development projects, community plan updates, or other discretionary actions proposed at this time, the demand for energy resulting from implementation of such projects and actions could be considered excessive. Due to existing infrastructure deficiencies in existing built areas of the City and the potential for excessive energy consumption, it is anticipated that new or improved public utilities infrastructure would be required to meet the needs of the City's future growth occurring through infill and redevelopment as well as on remaining vacant and developable lands.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental impacts associated with new construction of, or improvements to, public utilities infrastructure.

However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental impacts associated with potentially excessive energy consumption and the construction of future public utilities infrastructure improvements, when viewed in connection with the increased regional demand for energy and such improvements, maybe considered cumulatively significant and unavoidable.

Traffic

Project-level impacts related to excessive parking demand and decreased multimodal trips in the City's transportation system are specific to the Draft General Plan and not a cumulative concern. However, project-level impacts associated with an increased number of roadways miles at Level of Service E or F on the planned transportation network could result in greater cumulative impacts when viewed in connection with future development elsewhere in San Diego County. The SANDAG Transportation Model forecasts that daily vehicle miles traveled at LOS E or F will decrease by the Year 2030. However, due to uncertainties associated with the long-range implementation of the MOBILITY 2030 Regional Transportation Plan (RTP) and potential changes that could occur during the major update of the RTP that is currently underway, future regional development could increase the number of roadway miles at LOS E or F on the planned transportation network. Impacts to roadways LOS within the Plan area could occur because (1) implementation of the Draft General Plan could result in community plan updates that alter planned land uses and transportation or in development projects that require new or altered transportation facilities and (2) the aforementioned uncertainties associated with the RTP.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental impacts associated with an increase in roadway miles at LOS E or F on the planned transportation network. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.15.4** will be identified to reduce significant project-level incremental impacts associated with an increase in roadway miles at LOS E or F on the planned transportation network to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental impacts associated with an increase in roadway miles at LOS E or F on the planned transportation network, when viewed in connection with regional traffic LOS impacts, is considered cumulatively significant and unavoidable.

Visual Effects and Neighborhood Character

In spite of Draft General Plan policies designed to mitigate the visual impacts of future growth within the plan area, the infill and redevelopment that would likely occur under the Draft General Plan may result in significant project-level impacts associated with visual resources and neighborhood character. Project-level impacts related to the substantial blocking of public views from designated open space areas, scenic highways or to any significant visual landmarks or scenic vistas (e.g., mountains, bays, rivers, and ocean), substantial changes in topography or to ground surface relief features, and the negative and substantial alteration of the existing character of the plan area are generally site-specific or specific to the Draft General Plan area and not a cumulative concern. However, since the Draft General Plan area constitutes a large portion of San Diego County, project-level impacts related to substantial blocking of public views from designated open space areas, scenic highways or to any significant visual landmarks or scenic vistas (e.g., mountains, bays, rivers, and ocean), substantial changes in topography or to ground surface relief features, and negative and substantial alteration of the existing character of the plan area, would constitute cumulative visual impacts to San Diego County.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental visual impacts. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing regulations), site-specific measures such as the general measures listed within the Mitigation Framework of **Section 3.16.4** will be identified to reduce significant project-level incremental visual impacts to less than significant, or the project's incremental impacts may remain significant and unavoidable where no feasible mitigation exists. However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, since the Draft General Plan area constitutes a large portion of San Diego county, incremental impacts related to substantial blocking of public views from designated open space areas, scenic highways or to any significant visual landmarks or scenic vistas (e.g., mountains, bays, rivers, and ocean), substantial changes in topography or to ground surface relief features, and negative and substantial alteration of the existing character of the plan area are considered cumulatively significant and unavoidable.

Water Quality

The majority of water bodies within San Diego County are part of hydrologic systems located in multiple jurisdictions; some watersheds are located within both the Draft General Plan area and other jurisdictions. As a result, water pollution produced by urban development in one jurisdiction can result in water quality impacts that affect other jurisdictions or the entire county. Thus, all jurisdictions within the county work cooperatively to reduce regional water quality

impacts. This cooperation is established under the NPDES Municipal Permit, which requires co-permittees to collaborate on the development of a Watershed Urban Runoff Management Plan (WURMP) for each watershed. The WURMP documents address high priority stormwater quality issues found within the multiple regional watersheds. Compliance of the WURMP documents by the City of San Diego and other jurisdictions within the county's watersheds would help reduce both individual and cumulative impacts to water quality. Cumulative impacts would occur when the water quality impacts of two or more jurisdictions which, when considered together, are considerable or which, compound or increase other effects. As the county develops in response to future population growth, water quality impacts to regional watersheds, some of which are located within both the Draft General Plan area and other jurisdictions, would occur. Future development under the Draft General Plan, which would likely include infill and redevelopment as well new development on remaining vacant and developable lands, could generate pollution that adversely affects water quality.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the above policies and compliance with federal, state, and local regulations would preclude incremental water quality impacts. However, for some projects it is possible that adherence to regulations may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

However, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, incremental water quality impacts, when viewed in connection with water quality impacts from development in other jurisdictions of the county, may be considered cumulatively significant and unavoidable.

Conclusion

When the Draft General Plan is considered in combination with regional population growth projections for San Diego County, cumulatively significant and unavoidable impacts would occur in all of the environmental impact issue areas.

5.2 Global Warming

According to CEQA Guidelines §15002(a)(1), one of the basic purposes of CEQA is to, "Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities." Although a discussion of global warming impacts is not currently required by the CEQA Statutes or Guidelines, it is the view of the State Legislature (as expressed in its adoption of AB 32, *The California Climate Solutions Act of 2006*) that global warming poses significant adverse effects to the environment of the state of California and the entire world. In addition, the global scientific community has expressed very high confidence (i.e., at least 90 percent) that global warming is anthropogenic, i.e., caused by humans, and that global warming will lead to adverse climate change effects around the globe (IPCC 2007). Therefore,

the potential global warming impacts that may occur during implementation of the Draft General Plan are analyzed below.

Overview

Atmospheric greenhouse gases (GHGs) and clouds within the earth's atmosphere influence the earth's temperature by absorbing most of the infrared radiation rising from the earth's sun-warmed surface that would otherwise escape into space. This process is commonly known as the Greenhouse Effect. The GHGs and clouds, in turn, radiate some heat back to the earth's surface and some out to space. The resulting balance between incoming solar radiation and outgoing radiation from both the earth's surface and atmosphere keeps the planet habitable.

However, anthropogenic (i.e., caused by humans) emissions of GHGs into the atmosphere enhance the Greenhouse Effect by absorbing the radiation from other atmospheric GHGs that would otherwise escape to space, thereby trapping more radiation in the atmosphere and causing temperature to increase. The human-produced GHGs responsible for increasing the Greenhouse Effect and their relative contribution to global warming are: carbon dioxide (CO_2) (53 percent); methane (CH_4) (17 percent); near-surface ozone (O3) (13 percent); nitrous oxide (N_2O) (12 percent); and chlorofluorocarbons (CFCs) (5 percent). The most common GHG is CO_2, which constitutes approximately 84 percent of all GHG emissions in California. Worldwide, the state of California ranks as the 12^{th} to 16^{th} largest emitter of CO_2 (the most prevalent GHG) and is responsible for approximately 2 percent of the world's CO_2 emissions (CEC 2006a).

The increasing emissions of these GHGs—primarily associated with the burning of fossil fuels (during transport, electricity generation, industry, manufacturing, etc.) and deforestation, as well as agricultural activity and the decomposition of solid waste—have led to a trend of unnatural warming of the earth's temperature, which is causing changes in the earth's climate. This increasing temperature phenomenon is known as global warming and the climatic effect is known as climate change or global climate change. The State Legislature adopted the public policy position that global warming is, "a serious threat to the economic well-being, public health, natural resources, and the environment of California" (Health and Safety Code § 38501). Further, the state legislature has determined that, "the potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious disease, asthma, and other human health-related problems", and that, "Global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry (and)…will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the State" (Health and Safety Code § 38501). These public policy statements became law with the enactment of AB 32, Statutes of 2006.

Regulatory Setting

Federal Plans, Policies, Regulations, and Laws

As of this writing, there are no adopted federal plans, policies, regulations or laws mandating reductions in GHG emissions that cause global warming. According to the U.S. Environmental Protection Agency (EPA), "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The federal government's goal is to reduce the greenhouse gas intensity (a measurement of greenhouse gas emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. In addition, EPA administers multiple programs that encourage voluntary GHG reductions, including ENERGY STAR, Climate Leaders, and Methane Voluntary Programs (EPA 2007).

State Plans, Policies, Regulations, and Laws

Assembly Bill 32, the California Climate Solutions Act of 2006 (Health and Safety Code § 38500 et seq.)

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Climate Solutions Act of 2006. In general, AB 32 directs the California Air Resources Board (CARB or State Board) to do the following:

- On or before June 30, 2007, the Air Resources Board shall publicly make available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit;
- By January 1, 2008, determine the statewide levels of GHG emissions in 1990, and adopt a statewide GHG emissions limit that is equivalent to the 1990 level (an approximately 25 percent reduction in existing statewide GHG emissions);
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;
- On or before January 1, 2011, adopt quantifiable, verifiable and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012 at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and nonmonetary incentives that reduce GHG emissions from any sources of categories of sources as the Air Resources Board finds necessary to achieve the statewide GHG emissions limit; and
- The Air Resources Board shall monitor compliance with and enforce any emission reduction measure adopted pursuant to Assembly Bill 32.

Assembly Bill 32 also takes into account the relative contribution of each source or source category to protect adverse impacts on small businesses and others by requiring the Air Resources Board to recommend a de minimis threshold of GHG emissions below which emissions reduction requirements would not apply. Assembly Bill 32 also allows the Governor to adjust the deadlines mentioned above for individual regulations or the entire state to the earliest feasible date in the event of extraordinary circumstances, catastrophic events, or threat of significant economic harm.

Executive Order #S-3-05

Executive Order #S-3-05, signed by Governor Arnold Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80-percent reduction in GHG emissions below 1990 levels by 2050. Executive Order #S-3-05 also calls for the California Environmental Protection Agency (CalEPA) to prepare biennial science reports on the potential impact of continued global warming on certain sectors of the California economy. The first of these reports, "Scenarios of Climate Change in California: An Overview" (Climate Scenarios report), was published in February 2006 (California Climate Change Center 2006).

The Climate Scenarios report uses a range of emissions scenarios developed by the Intergovernmental Panel on Climate Change (IPCC) to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century: lower warming range (3.0-5.5^{o}F); medium warming range (5.5-8.0^{o}F); and higher warming range (8.0-10.5^{o}F). The Climate Scenarios report then presents analysis of future climate in California under each warming range.

As shown above, each emissions scenario would result in substantial temperature increases for California. According to the report, substantial temperature increases would result in a variety of impacts to the people, economy, and environment of California associated with a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming. Under the emissions scenarios of the Climate Scenarios report (California Climate Change Center 2006), the impacts of global warming in California are anticipated to include, but are not limited to, the following:

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada mountain snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming scenario, snowpack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snowpack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

The state's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major state fresh water supply.

Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25 percent of the water supply they need, decrease the potential for hydropower production within the state (although the effects on hydropower are uncertain), and seriously harm winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development will change, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to intensify this threat by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30 percent toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90 percent.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems are expected to decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the state's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

California Solar Initiative

As part of the California Solar Initiative, the state has set a goal to create 3,000 megawatts of new solar-produced electricity by 2017 through the provision of approximately $3.3 billion in incentives to existing residential customers and all non-residential customers by the California

Public Utility Commission (CPUC) and to new residential customers by the California Energy Commission (CEC).

Executive Order S-20-04 – The California Green Building Initiative

Governor Schwarzenegger signed Executive Order S-20-04 ("The California Green Building Initiative") establishing the State's priority for energy and resource-efficient high performance buildings on December 14, 2004. The Executive Order sets a goal of reducing energy use in state-owned and private commercial buildings by 20 percent in 2015 using non-residential Title 20 and 24 standards adopted in 2003 as the baseline. The California Green Building Initiative also encourages private commercial buildings to be retrofitted, constructed and operated in compliance with the state's Green Building Action Plan.

Senate Bill 1368

Senate Bill (SB) 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 required the California Public Utilities Commission (PUC) to establish a GHG emission performance standard for baseload generation from investor-owned utilities by February 1, 2007. Similarly, the CEC was tasked with establishing a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the GHG emission rate from a baseload combined-cycle natural gas fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and the CEC. In January 2007, the PUC adopted an interim GHG Emissions Performance Standard, which requires that all new long-term commitments for baseload generation entered into by investor-owned utilities have emissions no greater than a combined cycle gas turbine plant (i.e., 1,100 pounds of CO_2 per megawatt-hour). A "new long-term commitment" refers to new plant investments (new construction), new or renewal contracts with a term of 5 years or more, or major investments by the utility in its existing baseload power plants. In May 2007, the CEC approved regulations that prohibit the state's publicly owned utilities from entering into long-term financial commitments with plants that exceed the standard adopted by the PUC of 1,100 pounds of CO_2 per megawatt hour.

Senate Bill 107

Senate Bill (SB) 107 of 2006 requires investor owned utilities in the state such as San Diego Gas and Electric to increase their total procurement of eligible renewable energy resources by at least an additional one percent of retail sales per year so that 20 percent of retail electricity sales come from renewable energy sources by December 31st, 2010. Previously, state law required achievement of this 20 percent requirement by 2017.

Assembly Bill 1493

In 2002, then Governor Gray Davis signed AB 1493. AB 1493 required the ARB to develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty truck and other vehicles

determined by the ARB to be vehicles whose primary use is noncommercial personal transportation in the state."

To meet the requirements of AB 1493, ARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards in 2004. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961) and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016.

Emission requirements adopted as part of CCR 13 1961.1 are shown in **Table 5.2-1**. For passenger cars and light-duty trucks 3,750 pounds or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than the during the first year of the regulations in 2009. For medium-duty passenger vehicles and light-duty trucks 3,751 LVW to 8,500 pounds gross vehicle weight (GVW), GHG emissions are reduced approximately 24 percent between 2009 and 2016.

Table 5.2-1
Fleet Average GHG Exhaust Emission Requirements Included in CCR 13 1961.1

Vehicle Model Year	Fleet Average GHG Emissions (grams per mile CO^2 equivalents)	
	All Passenger Cars; Light-Duty Trucks 0-3,750 lbs loaded vehicle weight (LVW)[1]	Light-Duty Trucks 3,751 lbs LVW to 8.500 lbs gross vehicle weight (GVW); Medium-Duty Passenger Vehicles[1]
2009	323	439
2010	301	420
2011	267	390
2012	233	361
2013	227	355
2014	222	350
2015	213	341
2016	205	332

lbs = pounds
[1] Specific Characteristics of Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles are provided in CCR 13 1900 as amended to comply with AB 1493.

In December 2004 a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufactures filed suit against the ARB to prevent enforcement of CCR 13 1900 and CCR 13 1961 as amended by AB 1493 and CCR 13 1961.1 (Central Valley Chrysler-Jeep et al., v. Catherine E. Witherspoon, in her official capacity as Executive Director of the California Air Resources Board et al.). The suit, being heard in the U.S. District Court for the Eastern District of California, contends that California's implementation of regulations that in effect regulate vehicle fuel economy violates various federal laws, regulations, and policies.

To date, the suit has not been settled, and the judge has issued an injunction stating ARB cannot enforce the regulations in question before receiving appropriate authorization from the EPA.

In January 2007, the judge hearing the case accepted a request from the State Attorney General's office that the trial be postponed until a decision is reached by the U.S. Supreme Court on a separate case addressing GHGs. In the Supreme Court Case, *Massachusetts vs. EPA*, the primary issue in question is whether the federal CAA provides authority for the EPA to regulate CO_2 emissions. In April 2007, the U.S. Supreme Court ruled in *Massachusetts'* favor, holding that GHGs are air pollutants under the CAA. In May 2007, the EPA held two public hearings on ARB's request for EPA authorization to implement the GHG reductions measure for motor vehicles required by AB 1493. As of this writing, the *Central Valley Chrysler-Jeep* case is still pending before the U.S. District Court in eastern California and the EPA has not made a decision on ARB's request for authorization to implement the GHG reduction measure for motor vehicles.

Senate Bill 1505

Senate Bill (SB) 1505 of 2006 establishes environmental performance standards for the production and use of hydrogen fuel for transportation purposes in the state. In general, SB 1505 specifically requires that: hydrogen fueled vehicles reduce GHG emissions by at least 30 percent compared to emissions from new gasoline vehicles; at least one-third of the hydrogen produced or dispensed for transportation purposes in the state must be made from renewable sources of electricity; well-to-tank emissions of smog-forming pollutants from hydrogen fuel dispended in the state must be reduced by at least 50 percent when compared to gasoline; and emissions of toxic contaminants must be reduced to the maximum extent feasible compared to gasoline on a site specific basis.

Local Plans and Programs

City of San Diego Sustainable Community Program and Climate Protection Action Plan

On January 29, 2002, the San Diego City Council unanimously approved the San Diego Sustainable Community Program. Included in this program are: The City's GHG Emission Reduction Program, which sets a reduction target of 15 percent by 2010, using 1990 as a baseline; establishment of a scientific *Ad Hoc* Advisory Committee to expand the GHG Emission Reduction Action Plan for the City organization and broaden the scope to include community actions; membership in the International Council for Local Environmental Initiatives (ICLEI) City for Climate Protection (CCP) Campaign to reduce GHG emissions; and charter membership in the California Climate Action Registry.

The City of San Diego's Climate Protection Action Plan (2005) calls for the City to achieve a 15 percent reduction in GHG emissions by 2010. The CPAP is hereby incorporated into the EIR by reference. This action plan projects that global warming would result in impacts to the City associated with water and energy shortages, loss of beaches and coastal property, higher average temperatures, and decreases in revenue from tourism and agriculture. According to the action plan in the City (including all residential, business, and commercial sectors within the City limits) the transportation sector (i.e., vehicle miles traveled) is responsible for approximately one-half (51 percent) of GHG emissions, followed by energy (electricity and natural gas) consumption (29 percent), and solid waste/landfills (20 percent). For the City's municipal operations, solid waste landfills represents a plurality (25 percent) of GHG emissions, followed

by employee commutes (23 percent), water and sewage operations and facilities (18 percent), City buildings (17 percent), the City's vehicle fleet (12 percent), and streetlights (five percent). Overall, City residents and businesses are responsible for approximately 98 percent of GHG emissions (15.3 million tons) within the City, while municipal government operations are responsible for the remaining two percent (0.2 million tons) (City of San Diego 2005).

In recognition of the fact that local action is needed to reduce the impacts of global warming, the action plan provides a series of recommendations to be implemented by the City in order to achieve the 15 percent reduction in GHG emissions (using 1990 as a baseline) by 2010. Baseline (1990) GHG emissions for the City were estimated at 15.5 million tons of carbon-dioxide equivalent[1]. If no action were taken to address GHG emissions before 2010, the City is forecasted to emit 22.5 million tons of carbon dioxide equivalent in 2010. The goal of a 15 percent reduction in GHG emissions equals a total of 13.2 million tons of carbon dioxide equivalent in 2010. Therefore, achievement of the 15 percent reduction would require the City to reduce total GHG emissions by 9.3 million tons of carbon dioxide equivalent. In order to achieve this goal, the GHG emission reduction measures of the action plan target emissions from the transportation, energy and waste sectors through a two-phase strategy.

During Phase One (1994-2003) of the emission reduction strategy, the City reduced total GHG emissions by 3.8 million tons of carbon dioxide equivalent through a combination of increasing energy efficiency, retrofitting transit infrastructure, recycling, and recovering landfill gas. Approximately 3.6 million tons (95 percent) of the emissions reductions were associated with the capture of methane gas from solid waste landfills and sewage treatment plants, as well as recycling programs. The City needs to reduce GHG emissions by an additional 5.5 million tons of carbon dioxide equivalent by 2010 to meet its goal for a 15 percent reduction. In order to meet this goal, the Climate Protection Action Plan calls for the City to reduce GHG emissions through the reduction measures listed below:

Transportation

- Develop and implement a plan to reduce gasoline fuel consumption in each of four light duty vehicle categories by no less than five percent, relative to fleet size, by 2008 (using 2005 as a baseline);

- Provide an information campaign and incentives to encourage the use of vehicles that meet or exceed the Super Ultra Low Emission Vehicle (SULEV) rating;

Energy Efficiency and Renewable Energy

[1] Carbon-dioxide equivalent is a calculation that enables all GHG emissions to be considered as a group in order to measure the impact of all GHG emissions. This is necessary because GHGs vary widely in their ability to absorb radiation and trap heat in the atmosphere, which means their power to affect the climate—or their global warming potential—also varies widely. The global warming potential of GHGs is measured relative to the global warming potential of CO_2. For example, since CH_4 and NO_X are approximately 23 and 300 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have global warming potentials of 23 and 300 (CO_2 has a global warming potential of 1). The global warming potential of each GHG is then multiplied by the prevalence of that gas to produce a carbon-dioxide equivalent.

- Continue to implement the 50-Megawatt Renewable Energy Goal, which establishes the goal for adding 50-Megawatts of renewable energy for City operations by 2013. Renewable energy includes photovoltaic solar panels, solar thermal panels, solar thermal water heating panels, wind generators, landfill gas generations, small hydroelectric generators, geothermal energy systems, and other renewable technologies;

- Continue to use methane as an energy source from inactive and closed landfills;

- Purchase energy efficient products that either meet Energy Star specifications or are in the upper 25 percent of energy efficiency standards.

Waste

- Continue to implement the Construction and Demolition Debris (C&D) Diversion Deposit Ordinance to reduce the amount of GHG emissions associated with the disposal of solid waste into landfills;

- Consider bolder incentives to expand waste minimization efforts:

    - Develop and adopt a construction and demolition recycling ordinance;
    - Develop and adopt a commercial paper recycling ordinance; and
    - Develop and adopt a multifamily recycling ordinance.

Urban Heat Island

- Develop and adopt a Urban Heat Island Mitigation Policy that includes the planting of shade trees, the use of alternative materials for roads and roofing, and land use techniques to combat urban heat island effect;

- Continue to implement the Community Forest Initiative by planting 5,000 shade trees per year on public property through 2020;

- Adopt a Public Tree Protection Policy to protect existing trees on public property from being cut down in order to maintain shade areas and prevent the CO_2 stored within trees from being released into the atmosphere.

Affordable/in-Fill Housing and Sustainable Buildings Expedite Program

The Affordable/in-Fill Housing and Sustainable Buildings Expedite Program ("Expedite Program") is an optional program providing expedited permit processing for all eligible affordable/in-fill housing and sustainable building projects that pay a supplemental fee. Eligible projects are provided with a more aggressive processing timeline than other ineligible projects by receiving: mandatory initial review meetings for early staff feedback; reduced project review cycles; funding for the environmental initial study; and scheduling of a public hearing immediately upon completion of the environmental document at the applicant's request. Eligible sustainable buildings include ministerial and discretionary residential, commercial and industrial

development projects that utilize photovoltaic systems (solar panels) to generate a certain percentage of the project's energy needs consistent with City Council Policy 900-14, Sustainable Building Policy as shown in **Table 5.2-2**:

Table 5.2-2
Sustainable Building Expedite Program Criteria

Project Type	**Required percentage of projected total energy use from a photovoltaic system**
Ministerial Process	
Residential	50%
Commercial or Industrial	30%
Discretionary Process	
Residential (4 units or more)	50%
Commercial or Industrial	30%

Source: Council Policy 900-14.

Cumulative Impact Analysis

Population growth anticipated to occur during the course of Draft General Plan implementation is expected to result in increased emissions of GHGs, largely due to increased vehicle miles traveled (VMT), as well as increased energy consumption and waste generation. As discussed previously, increased emissions of GHGs would contribute to global warming and the adverse global environmental effects thereof. Increased GHG emissions could also potentially conflict with the requirement of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. Vehicular GHG emissions result from CO_2, CH_4, and N_2O that is released during the combustion of gasoline or diesel fuel in the vehicles.

Increased energy consumption and waste generation result in increased GHG emissions associated with the burning of fossil fuels for energy production and the release of landfill gas associated with storing solid waste in landfills. The City's Climate Protection Action Plan established a baseline (1990) and projected future (2010) GHG emissions from the energy, transportation, and waste sectors to measure the effectiveness the action plan's emission reduction measures. **Table 5.2-3** provides the total amount of GHG emissions from these three sectors and each sector's percentage of the City's total GHG emissions for 1990 and 2010 without implementation of the action plan (no action).

Table 5.2-3
City of San Diego Greenhouse Gas Emissions
1990 Baseline and 2010 "No Action" Projection

Source	1990 Baseline (% of Total)	1990 Baseline (Tons/Year GHG)	2010 "No Action" Projection (% of Total)	2010 "No Action" Projection (Tons/Year GHG)
Energy	29%	4,507,000	43%	9,749,000
Transportation	51%	7,892,000*	40%	8,951,000
Waste	20%	3,148,000	17%	3,817,000
Totals		**15,547,000**		**22,517,000**

Source: City of San Diego Climate Protection Action Plan 2005.
Notes:
1 This table includes total GHG emissions from all residences, businesses, industries, municipal operations and other sources within City limits.
2 The Climate Protection Action Plan estimates of transportation-related GHG emissions include emissions from the consumption of gasoline, diesel, propane, and CNG for vehicles and electricity for rail. The GHG emissions estimates resulting from VMT under the Draft General Plan include only GHG emissions from the consumption of gasoline.

As shown on the table above, transportation-related GHG emissions comprised 51 percent of the City's total emissions in 1990, and are anticipated to account for 40 percent of the City's 2010 emissions. Therefore, increased VMT (i.e., transportation) is anticipated to be a substantial source of GHG emissions associated with future projected population growth anticipated to occur during Draft General Plan implementation. Although there are no universally accepted methodologies for quantifying vehicular emissions of GHGs, methodologies for calculating GHG emissions do exist and are presented below to provide a rough calculation of GHG emissions associated with projected future vehicle travel[2].

According to **Section 3.15** of this Program EIR, 2005 daily VMT is 35,014,269 and projected daily VMT is 42,914,375 in 2030. Interpolation of the 2005 and 2030 VMT figures was used to estimate projected year 2020 daily VMT at 39,754,333 and 2006 (existing) daily VMT at 35,330,273. Assuming a future 2020 fuel economy average of 22.779 miles per gallon (mpg) (California Department of Transportation 2005) and the GHG emission factors as shown on **Table 5.2-4**, VMT would generate approximately 6.3 million tons of carbon dioxide-equivalent in 2020 and approximately 6.7 million tons of carbon dioxide-equivalent in 2030.

Table 5.2-4
GHG Vehicle Emission Factors (lbs./gallon)

CO_2	CH_4	N_2O
19.564	0.00055	0.0002

Source: Source Inventory of Bay Area Greenhouse Gas Emissions, Bay Area Air Quality Management District, November 2006.

[2] The GHG emissions estimates for VMT under the Draft General Plan include only GHG emissions from the consumption of gasoline. Vehicles powered by other fuels including diesel, propane, and CNG would generate additional GHG emissions. The Assumptions and methodology used to calculate GHG emissions from VMT under the Draft General Plan are provided in **Appendix B**.

Using existing and 1990 VMT and fuel economy figures, VMT within the City generated approximately 5.4 million tons of carbon dioxide-equivalent in 1990 and existing VMT generates approximately 5.8 million tons of carbon dioxide-equivalent. Consequently, projected 2020 GHG emissions associated with VMT are approximately 16 percent higher than 1990 levels and about eight percent higher than existing levels. Projected 2030 GHG emissions associated with VMT are approximately 24 percent higher than 1990 levels and about 16 percent higher than existing levels. Although the City's Climate Protection Action Plan includes measures to reduce GHG emissions, these measures are not anticipated to substantially reduce the GHG emissions associated with the projected VMT increase described above.

Furthermore, **Table 5.2-3** above indicates that the energy and waste sectors are projected to account for 60 percent of the City's total greenhouse gas emissions by generating approximately 9.7 and 3.8 million tons of carbon dioxide-equivalent, respectively, under the 2010 "No Action" projection. According to **Table 5.2-5**, the City has reduced solid waste-related GHG emissions by approximately 3.6 million tons annually and reduced energy-related GHG emissions by approximately 0.1 million tons annually.

Table 5.2-5
Total Greenhouse Gas Emissions Reductions

Measures	**GHG Reductions (Tons/Year)**
Energy Conservation	127,194
Transportation Measures	55,163
Solid Waste Measures	3,631,568
Total	**3,813,925**

Source: City of San Diego Climate Protection Action Plan 2005.
Notes:
1. This table includes total GHG reductions from all residences, businesses, industries, municipal operations and other sources within City limits.
2. These data are from 2003, the latest year for which reductions are available.

As shown above, total GHG reductions in the energy sector have been modest. Although the City's action plan includes measures to further reduce energy-related GHG emissions by 2010, these measures are not anticipated to substantially reduce the GHG emissions associated with the energy consumed by future discretionary development projects (e.g., residences, businesses, and other land uses and buildings) that occur in accordance with the Draft General Plan. Therefore, in addition to increased VMT, it is assumed that energy consumption associated with population growth and development that occurs in accordance with the Draft General Plan will also result in substantial levels of GHG emissions in excess of existing and 1990 levels.

However, the City has already reduced a sizeable portion of solid waste-related GHG emissions, and such emissions are anticipated to be a considerably lower percentage of the City's total future GHG emissions than shown on **Table 5.2-3**.

As discussed previously, emission reduction measures targeting sources of GHG emissions called for in AB 32 will likely be adopted in the near future, although no measures have yet been adopted, and it is unknown at this time if these measures will apply to local governments. In

addition, the California Air Resources Board has not yet developed "de minimis" criteria establishing the level of GHG emissions that would not be subject to the emission reduction measures. Furthermore, most of the emission reduction measures of the City's Climate Protection Action Plan do not address GHG emissions associated with the VMT, energy consumption, and waste generation related to discretionary development projects. Therefore, since future (i.e., 2020 and 2030) GHG emissions are projected to exceed existing and 1990 levels by sizeable margins, the incremental GHG emissions associated with development under the Draft General Plan would cause a cumulatively considerable incremental contribution to the significant cumulative (worldwide) impacts when viewed in connection with worldwide GHG emissions. By generating increased emissions that contribute to global warming, development that occurs in accordance with the Draft General Plan would incrementally contribute to the adverse economic, public health, natural resources, and other environmental impacts projected to occur in California and throughout the world as a result of global warming.

5.3 Mitigation Framework

The existing GHG emission reduction measures being implemented by the City as part of its Climate Protection Action Plan described above reduce the City's generation of GHGs that contribute to the significant worldwide impacts of global warming. In addition, the City's process for the review and evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as an analysis of those projects for consistency with the goals, policies, and recommendations of the General Plan. However, most of the GHG emissions reduction measures of the Climate Protection Action Plan do not apply to the GHG emissions associated with discretionary development projects.

In response to comments made on the Draft General Plan PEIR during the public review period, the City has undertaken the following actions to reduce the GHG emissions of future development under the General Plan and meet its obligations under CEQA to mitigate the cumulatively significant global warming impacts of the General Plan: (1) modify the policy language of the October 2006 Draft General Plan to expand and strengthen climate change policies; (2) ensure that policies to reduce greenhouse gas (GHG) emissions are imposed on future development and City operations by incorporating them into the Mitigation Monitoring and Reporting Program (MMRP) for the Final EIR; and (3) initiate work on a General Plan Action Plan to identify measures such as new or amended regulations, programs and incentives to implement the GHG reduction policies.

Based on this approach, the Conservation Element of the General Plan has been revised to: incorporate an overview of climate change; discuss existing state and City actions to address climate change impacts; and establish comprehensive policies that would reduce the GHG emissions of future development, the existing community-at-large, and City operations. A key new Conservation Element policy is to "reduce the City's carbon footprint" and to "develop and adopt new or amended regulations, programs and incentives as appropriate to implement the goals and policies set forth" related to climate change (CE-A.2). Additional policies have been added to "collaborate with climate science experts" to allow informed public decisions (CE-A.3) and to "regularly monitor and update the City's Climate Protection Action Plan (CE-A.13)." The overall intent of these new policies is to unequivocally support climate protection actions, while

retaining flexibility in the design of implementation measures which could be influenced by technological advances, environmental conditions, state and federal legislation, or other factors.

In addition, the Draft General Plan Land Use and Community Planning; Mobility; Urban Design; and Public Facilities, Services, and Safety elements have been edited to better support GHG reduction and climate change adaptation goals. These elements contain policy language related to sustainable land use patterns, alternative modes of transportation, energy efficiency, water supply, and GHG emissions associated with landfills. The General Plan also calls for the City to employ sustainable building techniques, minimize energy use, maximize waste reduction and diversion, and implement water conservation measures. The City's efforts to reduce GHG emissions are further bolstered by existing City programs including the Sustainable Community Program, the Climate Protection Action Plan, the Environmentally Preferable Purchasing Program, and numerous City Council policies addressing resource conservation and management. The overall intent of these new policies is to unequivocally support climate protection actions, while retaining flexibility in the design of implementation measures which could be influenced by technological advances, environmental conditions, state and federal legislation, or other factors.

As discussed above, the City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies and recommendations of the General Plan. In general, implementation of the policies in the MMRP and the measures in the Action Plan discussed above as well as compliance with federal, state, and local regulations would avoid or reduce their incremental contribution to the significant worldwide increase in GHG emissions. However, for some projects it is possible that adherence to the policies in the MMRP and the measures in the Action Plan may not adequately avoid or reduce incremental impacts, and such projects would require additional measures.

These additional measures would be considered mitigation. For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing programs, plans, and regulations), project-specific measures will be identified with the goal of reducing incremental project-level impacts to less than significant or the incremental contributions of a project may remain significant and unavoidable where no feasible mitigation exists. Where mitigation is determined to be necessary and feasible, these measures will be included in a Mitigation Monitoring and Reporting Program (MMRP) for the project. Mitigation Framework Measures include the comprehensive General Plan policies designed to reduce the GHG emissions of future development.

These general measures, in addition to measures identified in **Section 3.2.4** Air Quality, and **3.14.4** Public Utilities (see Energy subsection), may be implemented to avoid or reduce impacts. The measures may be updated, expanded, and refined when applied to specific future projects based on project-specific design and changes in existing conditions, and local, state, and federal laws.

5.4 Significance of Impact with Mitigation Framework

The degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program level of analysis. Therefore, the cumulatively considerable incremental contribution to the worldwide increase in GHG emissions represented by development that is anticipated to occur with implementation of the Draft General Plan is considered significant and unavoidable.

Notes and References

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