

5.0 LONG TERM EFFECTS

Long term effects of a project or plan include the significant and unavoidable impacts identified for each resource, any irreversible effects, cumulative impacts and/or growth-inducing impacts. Each of these types of long term effects for the 2004 RTP are listed below. Additional information on these impacts is available in the appropriate resource section in Chapter 3.0.

SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL CHANGES

The environmental effects listed below are those that cannot be avoided if the 2004 RTP is implemented. They include impacts that can be mitigated but not reduced to a level of insignificance.

Impact 3.1-1: Implementation of the proposed 2004 RTP transportation projects would result in substantial disturbance and/or loss of prime farmlands or grazing lands throughout the six-county SCAG region.

Impact 3.1-2: Implementation of the projects included in the 2004 RTP would result in a substantial loss or disturbance of existing open space and recreation lands.

Impact 3.1-3: The proposed 2004 RTP contains transportation projects and strategies to distribute the future growth in the region. These projects and strategies potentially would result in inconsistencies with currently applicable adopted local land use plans and policies.

Cumulative Impact 3.1-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to land use and would change the intensity of land use in some areas.

Impact 3.2-1: Implementation of the 2004 RTP would facilitate substantial population growth to certain vacant areas of the region.

Impact 3.2-2: Implementation of the 2004 RTP projects would require the acquisition of rights-of-way that displace a substantial number of existing homes or businesses.

Impact 3.2-3: The 2004 RTP has the potential to disrupt or divide a community by separating community facilities, restricting community access, and eliminating community amenities.

Cumulative Impact 3.2-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to currently vacant natural land.

Impact 3.3-1: In 2030 there would be substantially more total daily Vehicle Miles of Travel (VMT) than the current daily VMT. Implementation of the 2004 RTP would contribute to this increase.

Impact 3.3-2: In 2030 there would be substantially higher average Vehicle Hours Traveled (VHT) in delay than the current condition. Implementation of the 2004 RTP would contribute to this increase.

Impact 3.3-3: In 2030 there would be substantially greater average daily VHT in delay for heavy-duty truck trips than the current condition. Implementation of the 2004 RTP would contribute to this increase.

Cumulative Impact 3.3-7: Implementation of the 2004 RTP would contribute a cumulatively considerable amount of transportation impacts, such as VMT and all-vehicle VHT in delay, to counties outside of the SCAG region.

Impact 3.4-1a: Under the Plan, PM10 emissions from on-road mobile sources would increase when compared to current conditions.

Impact 3.4-2: Long-term (Operational) Localized Impacts

Freeway operations under the Plan would be likely to exceed the locally acceptable cancer risk of 1 in one million.

Impact 3.4-3: Site preparation (grading/excavation) and construction activities associated with the proposed freeway, arterial, transit and Maglev projects identified in the 2004 RTP would intermittently and temporarily create air emissions.

Impact 3.4-4: Short-term Localized Impacts

The cancer risk associated with construction projects under the Plan would likely exceed the locally acceptable cancer risk of 1 in one million.

Impact 3.4-5: Increased air traffic would increase emissions from aircraft and ground support equipment.

Impact 3.5-1: Grading and construction activities associated with the proposed freeway, arterial, transit and Maglev projects identified in the 2004 RTP would intermittently and temporarily generate noise levels above ambient background levels. Noise levels in the immediate vicinity of the construction sites would increase substantially sometimes for extended duration.

Impact 3.5-2: Noise-sensitive land uses could be exposed to noise in excess of normally acceptable noise levels or substantial increases in noise as a result of the operation of expanded or new transportation facilities (i.e., increased traffic resulting from new highways, addition of new highways, addition of highway lanes, roadways, ramps, and new use of new transit facilities as well as increased use of existing transit facilities, etc.)

Impact 3.5-3: Sensitive receptors would be exposed to noise in excess of normally acceptable noise levels or substantial increases in noise as a result of the operation of expanded or new transportation facilities (i.e., increased traffic resulting from new highways, addition of highway lanes, roadways, ramps, and new use of new transit facilities as well as increased use of existing transit facilities, etc.).

Cumulative Impact 3.5-4: Regional ambient noise levels potentially could increase to exceed normally acceptable noise levels or have substantial increases in noise as a result of the operation of expanded or new transportation facilities (i.e., increased traffic resulting from new highways, addition of highway lanes, roadways, ramps, and new use of new transit facilities as well as increased use of existing transit facilities, airports, and ports, etc.).

Impact 3.6-1: Construction and implementation of individual 2004 RTP projects potentially would obstruct views of scenic resources.

Impact 3.6-2: Construction and implementation of the proposed project potentially would alter the appearance of scenic resources along or near designated scenic highways and vista points.

Impact 3.6-3: Construction and implementation of the proposed project would create significant contrasts with the overall visual character of the existing landscape setting.

Impact 3.6-4: The projects in the 2004 RTP would add visual elements of urban character to an existing natural, rural and open space area.

Cumulative Impact 3.6-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to the overall visual character of the existing landscape setting.

Impact 3.7-1: Transportation projects included in the 2004 RTP on previously undisturbed land would potentially displace natural vegetation, and thus habitat, some of which is utilized by sensitive species in the SCAG region.

Impact 3.7-2: The 2004 RTP would potentially contribute to the fragmentation of existing habitat, decreasing habitat patch sizes, reducing habitat connectivity, and causing direct injury to wildlife. The 2004 RTP includes new transportation corridors that may form barriers to animal migration or foraging routes.

Impact 3.7-3: The 2004 RTP includes new transportation facilities that would potentially increase near-road human disturbances such as litter, trampling, light pollution and road noise in previously relatively inaccessible and undisturbed natural areas.

Impact 3.7-5: The 2004 RTP projects would potentially create noise, smoke, lights and/or other disturbances to biological resources during construction phases for these projects.

Impact 3.7-6: The 2004 RTP includes projects that would potentially displace riparian or wetland habitat.

Impact 3.7-7: The 2004 RTP would potentially increase siltation of streams and other water resources from exposures of erodible soils during construction activities.

Cumulative Impacts 3.7-9: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization.

Impact 3.8-1: Development of highway, arterial and transit projects potentially would impact historic resources.

Impact 3.8-2: Construction activities involving excavation and earthmoving may encounter archaeological resources.

Impact 3.8-3: Construction activities involving excavation and earthmoving may encounter paleontological materials.

Cumulative Impact 3.8-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to existing historic resources and previously undisturbed and undiscovered cultural resources, as described in Impacts 3.8-1 through 3.8-4.

Impact 3.9-2: Highway and rail construction can require significant earthwork and road cuts, increasing long-term erosion potential and slope failure. Earthwork can also alter unique geologic features.

Cumulative Impact 3.9-4: The actions considered by the 2004 RTP have the potential to cause cumulatively considerable adverse effects on human beings, when considered at the regional scale.

Impact 3.10-1: The implementation of the 2004 RTP would create a potential hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during transportation.

Impact 3.10-3: Implementation of the 2004 RTP would result in the potential release of hazardous materials within one-quarter mile of a school.

Cumulative Impact 3.10-5: The 2004 RTP would contribute a cumulatively significant amount of hazardous material transportation impacts to counties outside of the SCAG region.

Impact 3.11-2: The implementation of the 2004 RTP is likely to substantially increase the consumption of electricity, natural gas, gasoline, diesel, or other non-renewable energy types in the operation of the transportation system between the current conditions and 2030.

Cumulative Impact 3.11-3: Implementation of the investments and policies in the 2004 RTP would contribute to a cumulatively considerable increase in the amount of total energy consumed in the SCAG region between 2000 and 2030.

Impact 3.12-1: Local surface water quality would potentially be degraded by increased roadway runoff created by RTP projects, potentially violating water quality standards associated with wastewater and stormwater permits. These projects would potentially alter the existing drainage patterns in ways that would result in substantial erosion or siltation.

Cumulative Impact 3.12-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in impacts to water quality.

Cumulative Impact 3.12-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in impacts to stormwater infiltration and groundwater recharge.

Cumulative Impact 3.12-6: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in flooding hazard impacts.

Cumulative Impact 3.12-7: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to the need for increased wastewater treatment capacities in the region by 2030.

Cumulative Impact 3.12-8: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to an increased demand for water supply and its associated infrastructure. Comparing 2030 demands to existing supplies does not fully reflect the ongoing water planning conducted by water agencies in the region. While existing supplies and infrastructure may not be sufficient to meet expected 2030 demands, most water agencies have plans in place to respond to future growth. However, the *existing* water supplies and infrastructure would not be sufficient to meet the expected demand in 2030.

Cumulative Impact 3.13-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable fire threat to development in the SCAG Region.

Cumulative Impact 3.13-6: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to the staffing level of police and fire and emergency services in the SCAG Region.

Cumulative Impact 3.13-7: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to the number of school-age children and the demand for school facilities in different parts of the SCAG Region.

Cumulative Impact 3.13-9: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence would create a cumulatively considerable impact to the demand for solid waste services in the SCAG region.

SIGNIFICANT AND IRREVERSIBLE IMPACTS

Significant, irreversible impacts are those significant impacts that commit non-renewable resources, impacts that provide access to an area for growth, and other impacts that generally commit future generations to similar uses. The significant, irreversible impacts associated with implementation of the 2004 RTP are listed below.

Impact 3.1-1: Implementation of the proposed 2004 RTP transportation projects would result in substantial disturbance and/or loss of prime farmlands or grazing lands throughout the six-county SCAG region.

Impact 3.1-2: Implementation of the projects included in the 2004 RTP would result in a substantial loss or disturbance of existing open space and recreation lands.

Cumulative Impact 3.1-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to land use and would change the intensity of land use in some areas.

Impact 3.2-1: Implementation of the 2004 RTP would facilitate substantial population growth to certain vacant areas of the region.

Impact 3.2-2: Implementation of the 2004 RTP projects would require the acquisition of right-of ways that displace a substantial number of existing homes or businesses.

Impact 3.2-3: The 2004 RTP has the potential to disrupt or divide a community by separating community facilities, restricting community access, and eliminating community amenities.

Cumulative Impact 3.2-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to currently vacant natural land.

Impact 3.6-1: Construction and implementation of individual 2004 RTP projects potentially would obstruct views of scenic resources.

Impact 3.6-2: Construction and implementation of the proposed project potentially would alter the appearance of scenic resources along or near designated scenic highways and vista points.

Impact 3.6-3: Construction and implementation of the proposed project potentially would create significant contrasts with the overall visual character of the existing landscape setting.

Impact 3.6-4: The projects in the 2004 RTP potentially would add visual elements of urban character to an existing natural, rural, and open space area.

Cumulative Impact 3.6-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to the overall visual character of the existing landscape setting.

Impact 3.7-1: Transportation projects included in the 2004 RTP on previously undisturbed land would potentially displace natural vegetation, and thus habitat, some of which is utilized by sensitive species in the SCAG region.

Impact 3.7-2: The 2004 RTP would potentially contribute to the fragmentation of existing habitat, decreasing habitat patch sizes, reducing habitat connectivity, and causing direct injury to wildlife. The 2004 RTP includes new transportation corridors that may form barriers to animal migration or foraging routes.

Impact 3.7-3: The 2004 RTP includes new transportation facilities that would potentially increase near-road human disturbances such as litter, trampling, light pollution and road noise in previously relatively inaccessible and undisturbed natural areas.

Impact 3.7-6: The 2004 RTP includes projects that would potentially displace riparian or wetland habitat.

Cumulative Impacts 3.7-9: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization.

Impact 3.8-1: Development of highway, arterial and transit projects potentially would impact historic resources.

Impact 3.8-2: Construction activities involving excavation and earthmoving would potentially encounter archaeological resources.

Impact 3.8-3: Construction activities involving excavation and earthmoving may encounter paleontological materials.

Cumulative Impact 3.8-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to existing historic resources and previously undisturbed and undiscovered cultural resources, as described in Impacts 3.8-1 through 3.8-4.

Impact 3.9-2: Highway and rail construction can require significant earthwork and road cuts, increasing long-term erosion potential and slope failure. Earthwork can also alter unique geologic features. The impacts of projects considered as part of the 2004 RTP would be considered significant in some cases.

Impact 3.11-2: The implementation of the 2004 RTP is likely to substantially increase the consumption of electricity, natural gas, gasoline, diesel, or other non-renewable energy types in the operation of the transportation system between the current conditions and 2030. This would be a significant impact.

Cumulative Impact 3.11-3: Implementation of the investments and policies in the 2004 RTP would contribute to a cumulatively considerable increase in the amount of total energy consumed in the SCAG region between 2000 and 2030. This would be a significant impact.

CUMULATIVE IMPACTS

Cumulative impacts are the collective impacts created as a result of the implementation of the 2004 RTP in combination with other projects causing related impacts. Through 2030 many projects will occur within the SCAG region and the impacts listed below constitute the cumulatively considerable contribution of the 2004 RTP.

Cumulative Impact 3.1-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to land use and would change the intensity of land use in some areas.

Cumulative Impact 3.2-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to currently vacant natural land.

Impact 3.3-1: In 2030 there would be substantially more total daily Vehicle Miles of Travel (VMT) than the current daily VMT. Implementation of the 2004 RTP would contribute to this increase.

Impact 3.3-2: In 2030 there would be substantially higher average delay than the current condition. Implementation of the 2004 RTP would contribute to this increase.

Impact 3.3-3: In 2030 there would be substantially greater average delay for heavy-duty truck trips than the current condition. Implementation of the 2004 RTP would contribute to this increase.

Cumulative Impact 3.3-7: Implementation of the 2004 RTP would contribute a cumulatively considerable amount of transportation impacts, such as VMT and all-vehicle VHT in delay, to counties outside of the SCAG region.

Cumulative Impact 3.5-4: Regional cumulative ambient noise levels potentially could increase to exceed normally acceptable noise levels or have substantial increases in noise as a result of the operation of expanded or new transportation facilities (i.e., increased traffic resulting from new highways, addition of highway lanes, roadways, ramps, and new use of new transit facilities as well as increased use of existing transit facilities, airports, and ports, etc.).

Cumulative Impact 3.6-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to the overall visual character of the existing landscape setting.

Cumulative Impacts 3.7-9: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization.

Cumulative Impact 3.8-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to existing historic resources and previously undisturbed and undiscovered cultural resources, as described in Impacts 3.8-1 through 3.8-4.

Cumulative Impact 3.9-4: The actions considered by the 2004 RTP have the potential to cause cumulatively considerable adverse effects on human beings when considered at the regional scale.

Impact 3.10-1: The implementation of the 2004 RTP would create a potential hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during transportation. This would be a significant impact.

Cumulative Impact 3.10-5: The 2004 RTP would contribute a cumulatively significant amount of hazardous material transportation impacts to counties outside of the SCAG region.

Impact 3.11-2: The implementation of the 2004 RTP is likely to substantially increase the consumption of electricity, natural gas, gasoline, diesel, or other non-renewable energy types in the operation of the transportation system between the current conditions and 2030.

Cumulative Impact 3.11-3: Implementation of the investments and policies in the 2004 RTP would contribute to a cumulatively considerable increase in the amount of total energy consumed in the SCAG region between 2000 and 2030.

Cumulative Impact 3.12-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in impacts to water quality.

Cumulative Impact 3.12-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in impacts to stormwater infiltration and groundwater recharge.

Cumulative Impact 3.12-6: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in flooding hazard impacts.

Cumulative Impact 3.12-7: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to the need for increased wastewater treatment capacities in the region by 2030.

Cumulative Impact 3.12-8: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to an increased demand for water supply and its associated infrastructure. Comparing 2030 demands to existing supplies does not fully reflect the ongoing water planning conducted by water agencies in the region. While existing supplies and infrastructure may not be sufficient to meet expected 2030 demands, most water agencies have plans in place to respond to future growth. However, the *existing* water supplies and infrastructure would not be sufficient to meet the expected demand in 2030.

Cumulative Impact 3.13-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable fire threat to development in the SCAG Region.

Cumulative Impact 3.13-6: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional

cumulatively considerable impacts to the staffing level of police and fire and emergency services in the SCAG Region.

Cumulative Impact 3.13-7: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to the number of school-age children and the demand for school facilities in different parts of the SCAG Region.

Cumulative Impact 3.13-9: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence would create a cumulatively considerable impact to the demand for solid waste services in the SCAG region.

GROWTH-INDUCING IMPACTS

Growth inducing impacts are those, often secondary, impacts that result from fostering economic growth or removing obstacles to growth, such as providing access to an area previously inaccessible to growth.

The Plan would result in a distribution of people, jobs, and households differing from the base year and the No Project Alternative. Changes in policies and investments would shift the population distribution expected in 2030, as a function of changes in mobility and land use decisions. The associated growth-inducing impacts of the 2004 RTP and the associated indirect environmental effects are listed below.

Impact 3.1-1: Implementation of the proposed 2004 RTP transportation projects would result in substantial disturbance and/or loss of prime farmlands or grazing lands throughout the six-county SCAG region.

Impact 3.1-2: Implementation of the projects included in the 2004 RTP would result in a substantial loss or disturbance of existing open space and recreation lands.

Impact 3.1-3: The proposed 2004 RTP contains transportation projects and strategies to distribute the future growth in the region. These projects and strategies potentially would result in inconsistencies with currently applicable adopted local land use plans and policies.

Cumulative Impact 3.1-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to land use and would change the intensity of land use in some areas.

Impact 3.2-1: Implementation of the 2004 RTP would facilitate substantial population growth to certain vacant areas of the region.

Impact 3.2-2: Implementation of the 2004 RTP projects would require the acquisition of rights-of-way that displace a substantial number of existing homes and businesses.

Impact 3.2-3: The 2004 RTP has the potential to disrupt or divide a community by separating community facilities, restricting community access, and eliminating community amenities.

Cumulative Impact 3.2-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to currently vacant natural land.

Impact 3.3-1: In 2030 there would be substantially more total daily Vehicle Miles of Travel (VMT) than the current daily VMT. Implementation of the 2004 RTP would contribute to this increase.

Impact 3.3-2: In 2030 there would be substantially higher average delay than the current condition. Implementation of the 2004 RTP would contribute to this increase.

Impact 3.3-3: In 2030 there would be substantially greater average delay for heavy-duty truck trips than the current condition. Implementation of the 2004 RTP would contribute to this increase.

Cumulative Impact 3.3-7: Implementation of the 2004 RTP would contribute a cumulatively considerable amount of transportation impacts, such as VMT and all-vehicle VHT in delay, to counties outside of the SCAG region.

Cumulative Impact 3.6-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to the overall visual character of the existing landscape setting.

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Cumulative Impact 3.8-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to existing historic resources and previously undisturbed and undiscovered cultural resources, as described in Impacts 3.8-1 through 3.8-4.

Cumulative Impact 3.9-4: The actions considered by the 2004 RTP have the potential to cause cumulatively considerable adverse effects on human beings when considered at the regional scale.

Cumulative Impact 3.10-5: The 2004 RTP would contribute a cumulatively significant amount of hazardous material transportation impacts to counties outside of the SCAG region.

Cumulative Impact 3.11-3: Implementation of the investments and policies in the 2004 RTP would contribute to a cumulatively considerable increase in the amount of total energy consumed in the SCAG region between 2000 and 2030.

Cumulative Impact 3.12-4: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in impacts to water quality.

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Cumulative Impact 3.12-6: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in flooding hazard impacts.

Cumulative Impact 3.12-7: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to the need for increased wastewater treatment capacities in the region by 2030.

Cumulative Impact 3.12-8: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth would contribute to an increased demand for water supply and its associated infrastructure. Comparing 2030 demands to existing supplies does not fully reflect the ongoing water planning conducted by water agencies in the region. While existing supplies and infrastructure may not be sufficient to meet expected 2030 demands, most water agencies have plans in place to respond to future growth. However, the *existing* water supplies and infrastructure would not be sufficient to meet the expected demand in 2030.

Cumulative Impact 3.13-5: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable fire threat to development in the SCAG Region.

Cumulative Impact 3.13-6: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional

cumulatively considerable impacts to the staffing level of police and fire and emergency services in the SCAG Region.

Cumulative Impact 3.13-7: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence on growth contributes to regional cumulatively considerable impacts to the number of school-age children and the demand for school facilities in different parts of the SCAG Region.

Cumulative Impact 3.13-8: Implementation of the 2004 RTP in combination with potential changes to the growth distribution potentially would uncover and potentially sever underground utility lines (electric and natural gas).

Cumulative Impact 3.13-9: Urbanization in the SCAG region will increase substantially by 2030. The 2004 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2004 RTP's influence would create a cumulatively considerable impact to the demand for solid waste services in the SCAG region.