

CHAPTER 5

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 2008 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 2008 RTP is implemented. They include impacts that can be mitigated but not reduced to a level of insignificance. The economic, social, technological or other benefits of the 2008 RTP will be considered when balancing these impacts in the Statement of Overriding Considerations.

Impact 3.1-1: Construction and implementation of individual 2008 RTP projects could obstruct views of scenic resources or scenic vistas.

Impact 3.1-2: Construction and implementation of projects in the RTP could potentially alter the appearance of scenic resources along or near designated scenic highways and vista points.

Impact 3.1-3: Construction and implementation of projects included in the 2008 RTP could create significant contrasts with the overall visual character of the existing landscape setting or add urban visual elements to an existing natural, rural, and open space area.

Cumulative Impact 3.1-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP influences the pattern of this urbanization, by increasing mobility and including land-use-transportation measures. At the regional scale, the 2008 RTP's contribution to impacts on the overall visual character of the existing landscape setting would be cumulatively considerable.

Impact 3.2-1: Under the Plan, long-term emissions of PM10 and PM2.5 would increase substantially, when compared to existing conditions (2008). PM10 would increase in the SCAB, San Bernardino portion of MDAB and Imperial County portion of SSAB, and PM2.5 emissions would increase in the SCAB; PM10 would increase in Los Angeles, Orange, Riverside and San Bernardino Counties, PM2.5 would increase in Los Angeles and Riverside Counties, as a result of on-road mobile sources. The increase in regional emissions of PM10 and PM2.5 would be considered a significant cumulative impact.

Impact 3.2-3: Emissions of short-term criteria pollutants would increase under the plan as a result of construction of Plan projects and associated development in the region.

Cumulative Impact 3.2-4 Cumulative development would result in on-road emissions discussed in previous impacts as well as train, airplane, ship and stationary and area sources of emissions. All emissions are anticipated to be consistent with applicable AQMPs and SIPs and on-road emissions within regional conformity emission budgets. Nonetheless, such increases in emissions would be significant.

Impact 3.2-5 The 2008 RTP would result in increased trips and VMT as well as increased growth in the region compared to today, resulting in increases in Greenhouse Gas (GHG) emissions.

Impact 3.3-1: Transportation projects included in the 2008 RTP on previously undisturbed land could displace natural vegetation, and thus habitat, some of which is utilized by sensitive species in the SCAG region.

Impact 3.3-2: The 2008 RTP would potentially contribute to the fragmentation of existing habitat, decreasing habitat patch sizes, reducing habitat connectivity, and causing direct injury to wildlife. The 2008 RTP includes new transportation corridors that may form barriers to animal migration or foraging routes.

Impact 3.3-3: The 2008 RTP includes new transportation facilities that could increase near-road human disturbances such as litter, trampling, light pollution and road noise in previously relatively inaccessible and undisturbed natural areas.

Impact 3.3-5: The 2008 RTP projects would potentially create noise, smoke, lights and/or other disturbances to biological resources during construction phases for these projects.

Impact 3.3-6: The 2008 RTP includes projects that would potentially displace riparian or wetland habitat.

Impact 3.3-7: The 2008 RTP would potentially increase siltation of streams and other water resources from exposures of erodible soils during construction activities.

Cumulative Impacts 3.3-9: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization.

Impact 3.4-1: Construction of projects from the 2008 RTP could cause a substantial adverse change in the significance of a historical resource.

Impact 3.4-2: Construction of projects from the 2008 RTP could cause a substantial adverse change in the significance of an archaeological resource.

Impact 3.4-3: Construction of projects from the 2008 RTP could directly or indirectly destroy unique paleontological resources or sites or unique geological features.

Impact 3.4-4: Construction of projects from the 2008 RTP could disturb human remains, including those interred outside of formal cemeteries.

Cumulative Impacts 3.4-5: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional impacts to existing historic resources and previously undisturbed and undiscovered cultural resources, as described in Impacts 3.4-1 through 3.4-4 above. This impact would be cumulatively considerable.

Impact 3.5-1: The implementation of the 2008 RTP is likely to use electricity, natural gas, gasoline, diesel, and other non-renewable energy types in the construction and expansion of the regional transportation system and development in the region between the current conditions and 2035.

Impact 3.5-2: The implementation of the 2008 RTP is likely to substantially increase the consumption of electricity, natural gas, gasoline, diesel, and other non-renewable energy in the operation of the transportation system and operation of associated growth in the region between the current conditions and 2035.

Impact 3.5-3: Implementation of the 2008 RTP has the potential to not fully address the greenhouse gas reduction levels identified in AB 32 (1990 levels by 2020).

Cumulative Impact 3.5-4: Implementation of the investments and policies in the 2008 RTP would contribute to a cumulatively considerable increase in the amount of total energy consumed in the SCAG region between 2008 and 2035.

Impact 3.6-1: Implementation of the 2008 RTP could expose people or structures to potential substantial adverse effects, risk of surface rupture, ground shaking, liquefaction and landsliding or seismically-induced ground shaking or seiche waves.

Impact 3.6-2: Significant earthwork associated with implementation of the 2008 RTP could result in substantial soil erosion and/or the loss of topsoil in some cases potentially resulting in slope failure.

Impact 3.6-3: Projects included in the 2008 RTP could be located on expansive soils, a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

Cumulative Impact 3.6-4: Urbanization in the SCAG region would increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. Implementation of the 2008 RTP would have the potential to result in a cumulatively considerable adverse effect on human beings when considered at the regional scale.

Impact 3.7-2: The implementation of the 2008 RTP could create a 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 3.7-3: The implementation of the 2008 RTP would create a hazard to the public or the environment by emitting hazardous materials within one-quarter mile of a school.

Cumulative Impact 3.7-5: The 2008 RTP would contribute a cumulatively significant amount of hazardous material transportation impacts to areas outside of the SCAG region.

Impact 3.8-1 The proposed 2008 RTP contains transportation projects and strategies to distribute the future growth in the region. These projects and strategies could result in inconsistencies with currently applicable adopted local land use plans and policies.

Impact 3.8-2: The 2008 RTP contains transportation projects that have the potential to disrupt or divide established communities.

Cumulative Impact 3.8-3: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 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 3.9-1: Grading and construction activities associated with the proposed freeway, arterial, transit and HSRT projects identified in the 2008 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 3.9-2: Noise-sensitive land uses could be exposed to noise in excess of normally acceptable noise levels and/or could experience 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 transit facilities as well as increased use of existing transit facilities, etc.).

Cumulative Impact 3.9-3: Cumulative ambient noise levels could increase in urban areas of the region 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, etc.).

Impact 3.10-1: Implementation of the proposed 2008 RTP could result in substantial disturbance and/or loss of prime farmlands and/or grazing lands, throughout the six-county SCAG region.

Impact 3.10-2: Implementation of the projects included in the 2008 RTP would result in a substantial loss or disturbance of existing open space and recreation lands.

Impact 3.10-3 Implementation of the 2008 RTP could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facilities would occur; or could result in a decrease in performance objectives for existing parks.

Cumulative Impact 3.10-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable impacts to open space and result in a loss of open space and agricultural lands in the region.

Impact 3.11-1: Implementation of the 2008 RTP could facilitate substantial population growth to some areas of the region.

Impact 3.11-2: Implementation of the 2008 RTP projects could require the acquisition of rights-of-way that could displace a substantial number of existing homes and businesses.

Cumulative Impact 3.11-3: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable impacts to currently vacant natural land.

Cumulative Impact 3.12-5: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 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 3.12-6: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 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 3.12-7: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence would create a cumulatively considerable impact to the demand for solid waste services in the SCAG region.

Impact 3.13-1: Implementation of the 2008 RTP could impair transportation safety, security, and reliability for people and goods in the region.

Impact 3.13-2: The RTP has the potential to inhibit the prevention, protection, response to, and recovery from major human-caused or natural events that could create a significant hazard to the public threatening and impacting lives, property, the transportation network and the regional economy.

Cumulative Impact 3.13-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable fire threat to development in the SCAG region.

Impact 3.14-1: In 2035 there would be substantially more total daily Vehicle Miles of Travel (VMT) than the current daily VMT. Implementation of the 2008 RTP would contribute to this increase.

Impact 3.14-2: In 2035 there would be substantially higher average Vehicle Hours Traveled (VHT) in delay than the current condition. Implementation of the 2008 RTP would contribute to this increase.

Impact 3.14-3: In 2035 there would be substantially greater average daily VHT in delay for heavy-duty truck trips than the current condition. Implementation of the 2008 RTP would contribute to this increase.

Cumulative Impact 3.14-7: Implementation of the 2008 RTP would contribute to a cumulatively considerable amount of transportation impacts, such as VMT and all-vehicle VHT in delay, to counties outside of the SCAG region.

Impact 3.15-1: Local surface water quality could be degraded by increased roadway runoff created by RTP projects, potentially violating water quality standards associated with wastewater and stormwater permits. RTP projects could alter the existing drainage patterns in ways that would result in substantial erosion or siltation.

Impact 3.15-2: Increased impervious surfaces due to transportation projects would reduce groundwater infiltration.

Cumulative Impact 3.15-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in impacts to water quality.

Cumulative Impact 3.15-5: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 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 3.15-6: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in flooding hazard impacts.

Cumulative Impact 3.15-7: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to the need for increased wastewater treatment capacity in the region by 2035. The proposed Plan influences population growth, resulting in an indirect and cumulative impact on wastewater treatment services.

Cumulative Impact 3.15-8: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to an increased demand for water supply and its associated infrastructure. Water agencies in the SCAG region produce many long-range planning studies to provide a system adequate to supply water demand, however the *existing* water supplies and infrastructure would not be sufficient to meet the expected demand in 2035.

Significant and Irreversible Impacts

CEQA §21100(B) and CEQA Guidelines §15126.2(c) require that an EIR analyze the extent to which the proposed project's primary and secondary effects would impact the environment and commit nonrenewable resources to uses that future generations will not be unable to reverse.

As previously discussed, the project would introduce new land uses across the region, including in to areas that are currently vacant, open space/recreation and agricultural. The 2008 RTP projects and associated growth would use substantial nonrenewable resources, including sand, gravel, and fuel during construction, and energy resources during operation.

Cumulative Impacts

This PEIR analyzes cumulative impacts of the RTP with other plans and anticipated growth in the region. SCAG's Regional Comprehensive Plan (RCP) is currently undergoing substantial updates and is a potential cumulative project to the 2008 RTP. It is not anticipated that the RCP would result in any additional impacts beyond those analyzed in this PEIR.

Cumulative Impact 3.1-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP influences the pattern of this urbanization, by increasing mobility and including land-use-transportation measures. At the regional scale, the 2008 RTP's contribution to impacts on the overall visual character of the existing landscape setting would be cumulatively considerable.

Cumulative Impact 3.2-4: Cumulative development would result in on-road emissions discussed in previous impacts as well as train, airplane, ship and stationary and area sources of emissions. All emissions are anticipated to be consistent with applicable AQMPs and SIPs and within regional conformity emission budgets. Nonetheless, such increases in emissions would be significant.

Cumulative Impact 3.2-5: The 2008 RTP would result in increased trips and VMT as well as increased growth in the region compared to today, resulting in increases in Greenhouse Gas (GHG) emissions.

Cumulative Impacts 3.3-9: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization.

Cumulative Impacts 3.4-5: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional impacts to existing historic resources and previously undisturbed and undiscovered cultural resources, as described in Impacts 3.4-1 through 3.4-4 above. This impact would be cumulatively considerable.

Cumulative Impact 3.5-4: Implementation of the investments and policies in the 2008 RTP would contribute to a cumulatively considerable increase in the amount of total energy consumed in the SCAG region between 2008 and 2035.

Cumulative Impact 3.6-4: Urbanization in the SCAG region would increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. Implementation of the 2008 RTP would have the potential to result in a cumulatively considerable adverse effect on human beings when considered at the regional scale.

Cumulative Impact 3.7-5: The 2008 RTP would contribute a cumulatively significant amount of hazardous material transportation impacts to areas outside of the SCAG region.

Cumulative Impact 3.7-6: Implementation of the investments and policies in the 2008 RTP could create a potential hazard to the public or the environment by the disturbance of contaminated sites as a result of population and housing growth in the region.

Cumulative Impact 3.8-3: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 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 3.9-3: Cumulative ambient noise levels could increase in urban areas of the region 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, etc.).

Cumulative Impact 3.10-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable impacts to open space and result in a loss of open space and agricultural lands in the region.

Cumulative Impact 3.2-3: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable impacts to currently vacant natural land.

Cumulative Impact 3.12-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable impacts to the response times of police and fire and emergency services in the SCAG region.

Cumulative Impact 3.12-5: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 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 3.12-6: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 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 3.12-7: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence would create a cumulatively considerable impact to the demand for solid waste services in the SCAG region.

Cumulative Impact 3.13-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable fire threat to development in the SCAG region.

Cumulative Impact 3.14-7: Implementation of the 2008 RTP would contribute to 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 3.15-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in impacts to water quality.

Cumulative Impact 3.15-5: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 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 3.15-6: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in flooding hazard impacts.

Cumulative Impact 3.15-7: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to the need for increased wastewater treatment capacity in the region by 2035. The proposed Plan influences population growth, resulting in an indirect and cumulative impact on wastewater treatment services.

Cumulative Impact 3.15-8: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to an increased demand for water supply and its associated infrastructure. Water agencies in the SCAG region produce many long-range planning studies to provide a system adequate to supply water demand, however the *existing* water supplies and infrastructure would not be sufficient to meet the expected demand in 2035.

Growth-Inducing Impacts

Growth inducing impacts are those, often secondary, impacts that result from shifts in population growth or distribution, from fostering economic growth, or remove 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 2035, as a function of changes in mobility and land use decisions.

It is anticipated that the 2008 RTP would result in approximately the same population, employment and households as the No project Alternative, but it is anticipated that the Compass Blueprint land use policies will help to achieve a more compact development pattern. Although, the 2008 RTP with added transportation routes would provide greater access to more of the region than the No Project condition, the land use policies would tend to limit the geographic spread of growth. Nonetheless, in specific areas of the region the 2008 RTP would likely induce growth by providing new and/or improved access (for example the High Desert Corridor). Overall the 2008 RTP would accommodate and facilitate growth in the region.