

2020 Regional Transportation Plan/ Sustainable Communities Strategy

Draft
Supplemental Environmental Impact Report
SCH#2015092038

prepared by

Butte County Association of Governments

326 Huss Drive, Suite 150

Chico, California 95928

Contact: Iván García, Programming Manager

prepared with the assistance of

Rincon Consultants, Inc.

4825 J Street, Suite 200

Sacramento, California 95819

October 2020



RINCON CONSULTANTS, INC.

Environmental Scientists | Planners | Engineers

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Executive Summary

Project Synopsis

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Background

This SEIR augments the previously certified Programmatic Environmental Impact Report (EIR) for the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (State Clearinghouse No. 2015092038). The Butte County Association of Governments (BCAG) Board of Supervisors certified the EIR on December 8, 2016. For purposes of this SEIR, the previously certified EIR is referred to herein as the 2016 EIR. The impacts of the current 2016 RTP/SCS were analyzed in the previously certified 2016 EIR, which was a Program EIR. The proposed 2020 RTP/SCS is an update of the current 2016 RTP/SCS. The analysis in this SEIR is also programmatic and is focused on the potential changes in environmental effects that could result from the updates to the 2016 RTP/SCS that are included in the proposed 2020 RTP/SCS, including updates or changes to policies, projects, and growth scenarios. Therefore, this SEIR is being prepared to analyze only the changes to the 2016 RTP/SCS or changes in circumstances under which the RTP/SCS projects would be implemented since certification of the 2016 EIR.

Project Description

The underlying purpose of BCAG's 2020 RTP/SCS, which updates the current 2016 RTP/SCS, is to coordinate and facilitate the programming and budgeting of all transportation facilities and services within Butte County through 2040 and demonstrate how the region will integrate transportation and land use planning to meet greenhouse gas reduction targets established by CARB under Senate Bill (SB) 375.

The 2020 RTP/SCS is also intended to show how BCAG will meet the transportation needs of the region through 2040, considering existing and projected future land use patterns, as well as forecasted population and job growth. The 2020 RTP/SCS plans for and programs approximately \$68 million in revenues expected to be available to BCAG from all transportation funding sources over the course of the planning period. It identifies and prioritizes expenditures of anticipated funding for transportation projects that involve all transportation modes: highways, streets and roads, transit, rail, bicycle and pedestrian; aviation, as well as transportation demand management (TDM) and transportation system management (TSM).

The primary objective of updating the RTP/SCS is to comply with applicable regulatory requirements, including changes in legislative requirements that have occurred since the current 2016 RTP/SCS was adopted on December 8, 2016. The 2020 update is focused on continued implementation of the 2016 RTP/SCS, with minor updates to ensure consistency with federal, state

and local planning requirements. The 2020 RTP/SCS transportation improvements project list will update the 2016 RTP/SCS project list by removing projects that have been completed since 2016, modifying some projects that continue to be on the list based on new information, and adding approximately new minor projects to the list. None of the modified or new projects on the 2020 RTP/SCS list would be substantially different in terms of geographical location, type of project, or size of project to those on the 2016 RTP/SCS list.

In addition, the land use scenario envisioned by the 2020 RTP/SCS is consistent to that contained in the 2016 RTP/SCS, concentrating forecasted growth in population and employment in the region in urban areas and corridors of the County while preserving the distinct identity of existing cities and towns.

Alternatives

This SEIR examines three alternatives to the proposed 2018 RTP/SCS:

Alternative 1, No Project Alternative, includes a land use pattern a land use pattern comprised of land use trends according to the 2016 RTP/SCS. In other words, it assumes that current regional growth trends would continue consistent with what was estimated in the 2016 RTP/SCS, as population growth in the region would occur regardless of the 2020 RTP/SCS. Transportation projects would be comprised of those that are currently in construction or are funded through the 2016 RTP/SCS updated to reflect current conditions. No new transportation improvement projects would be added to the 2016 RTP list and therefore would not occur.

Alternative 2, Financially Constrained Alternative, includes the SCS and all roadway projects identified in the 2020 project list, including those classified as financially “unconstrained”, without regard to whether or not they can be funded. This alternative does not contain unconstrained bicycle, pedestrian, and transit projects. Transportation benefits under Alternative 2 relative to the 2020 RTP/SCS would be greater because of the increased volume of both roadway improvement and transit projects.

Alternative 3, Transit Investment Plus (+), focuses investment into development of public transit systems and alternative transportation modes, emphasizing bus, pedestrian, and bicycle modes of transportation. Secondly, this alternative would invest in measures such as solar panels, a plug-in electric (PEV) vehicle fleet, and electric buses to further reduce project environmental effects through energy efficiency. Thirdly, this alternative would result in changes to price metrics such as auto operating costs, parking, and transit pricing. Under this scenario all transportation improvement project as proposed under the 2020 RTP/SCS would remain (as all of the projects are constrained or funded), however in addition there would be an increased amount of public transit, alternative transportation, and energy efficient transportation projects implemented. An increased amount of transit projects under this alternative would result in an increased amount of associated development of those facilities relative to the 2020 RTP/SCS. In addition, this alternative would result in pricing changes which would result in changes to VMT (primarily reduction in VMT) in the Plan Area.

Each alternative is described in greater detail and analyzed in Section 6.0, *Alternatives*, to determine whether environment impacts would be similar to, less than, or greater than those of the proposed 2020 RTP/SCS.

Areas of Known Controversy

Areas of controversy associated with the proposed 2020 RTP/SCS are made known through comments received during the Notice of Preparation (NOP) process, as well as input solicited during public scoping meetings and an understanding of the community issues in the region. The SEIR scoping process and comments received in response to the NOP did not identify areas of known controversy for the proposed 2020 RTP/SCS. Public comments received during the NOP scoping period are summarized in Section 1.0, *Introduction*.

Issues to be Resolved

Section 15123(b)(3) of the *CEQA Guidelines* requires that an EIR contain a discussion of issues to be resolved including the choice among the project and alternatives, and whether or how to mitigate significant effects. Issues to be resolved include:

- How to address impacts from the SCS land use scenario that must be mitigated by the local land use authority, given that BCAG does not have jurisdiction over land use regulations.
- How best to require mitigation measures that can be enacted by implementing agencies in a manner to ensure CEQA streamlining for qualifying projects, per SB 375 and other laws, can occur.
- Whether to approve the proposed 2020 RTP/SCS or an alternative.

Summary of Impacts and Mitigation Measures

Table ES-1 summarizes the environmental impacts, proposed mitigation measures, and level of significance after application of mitigation, as applicable, of the 2020 RTP/SCS for issue areas evaluated in the SEIR. Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per Section 15093 of the *CEQA Guidelines*.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the *CEQA Guidelines*.
- **Less than Significant.** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact:** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Issues that were found to have potentially significant impacts that were either not evaluated in the 2016 EIR or would potentially change in severity beyond what was identified in the 2016 EIR and therefore required additional analysis in this SEIR include agriculture resources, air quality, biological resources, cultural resources, energy, greenhouse gas emissions, noise, population and housing, transportation, tribal cultural resources, and wildfire. Table ES-1 summarizes the impacts related to these issues as well as applicable mitigation measures to reduce impacts, as identified in

this SEIR. Mitigation measures from the 2016 EIR that are discussed in Section 4.12, *Other Environmental Issues Areas Analyzed*, are also included in Table ES-1.

Table ES-1 Summary of Environmental Impacts

Impact	Mitigation Measure (s)	Significance After Mitigation
Agriculture and Forestry		
<p>Impact AG-1. Implementation of proposed transportation improvements under the 2020 RTP/SCS could result in the additional conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and lands under Williamson Act contract to non-agricultural uses, relative to the 2016 RTP/SCS. Impacts would remain significant and unavoidable.</p>	<p>AG-1(a) Alternative Alignment Consideration. When new roadway extensions or widenings are planned, the project sponsor shall assure that project-specific environmental reviews consider alternative alignments that reduce or avoid impacts to Prime Farmlands.</p> <p>AG-1(b) Farmer Compensation. Rural roadway alignments shall follow property lines to the extent feasible, to minimize impacts to the agricultural production value of any specific property. Farmers shall be compensated for the loss of agricultural production at the margins of lost property, based on the amount of land deeded as road right-of-way, as a function of the total amount of production on the property.</p> <p>AG-1(c) Important Farmland Conservation Easements. When new transportation facilities or land use projects implementing the 2020 RTP/SCS are planned in areas that contain Important Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance), the transportation project sponsor or local jurisdiction in which the project is located shall assure that project-specific environmental reviews mitigate impacts, when feasible, through requiring use of agricultural conservation easements on land of at least equal quality and size as compensation for the loss of agricultural land. Agricultural conservation easements would be implemented by directly purchasing easements or donating mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural conservation easements.</p> <p>AG-1(d) Prime Farmland Conservation Easements. Prior to approval of 2020 RTP/SCS projects that may adversely impact Prime Farmland, the project sponsor shall, when the following mitigation measures are feasible, require that a farmland conservation easement, a farmland deed restriction, or other farmland conservation mechanism be granted in</p>	<p>Significant and unavoidable</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
<p>perpetuity to the municipality in which the project is proposed, or an authorized agent thereof. The easement shall provide conservation acreage at a minimum ratio of 1:1 for direct impacts. The conservation area shall be located within Butte County in reasonable proximity to the project area.</p>		
<p>Air Quality</p>		
<p>Impact AQ-1. The 2020 RTP/SCS would reduce emissions of ozone precursors consistent with the goals of the 2018 Triennial AQAP. It would not conflict with the 2018 AQAP update. There would be no new impact relative to the 2016 RTP/SCS. Impacts would remain less than significant.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact AQ-2. Implementation of the 2020 RTP/SCS would result in an overall reduction of on-road vehicle emissions when compared to baseline conditions and the 2040 No Project scenario. Impacts would remain less than significant.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact AQ-3. The transportation improvement projects and the land use scenario envisioned by the 2020 RTP/SCS may facilitate increased exposure of sensitive receptors to hazardous air pollutants that may cause health risks and odors that may be a nuisance. However, implementation of the 2020 RTP/SCS would not result in a regional increase in toxic air emissions when compared to the baseline or 2040 No Project scenarios and would have similar localized impacts as those described in the 2016 RTP/SCS EIR. Impacts would remain significant but mitigable.</p>	<p>AQ-3. Consistent with the provisions contained in the CARB Air Quality and Land Use Handbook (June 2005), for the proposed building design for residential, school, and other sensitive use projects located within 500 feet of freeways, heavily travelled arterials, railways, and other sources of diesel particulate matter and other known carcinogens, the sponsor agency shall retain a qualified air quality consultant to prepare a health risk assessment in accordance with CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to stationary air quality polluters prior to issuance of a demolition, grading, or building permit. The health risk assessment shall be submitted to the sponsor agency for review and approval. The sponsor agency shall implement any approved health risk assessment recommendations to a level that would not result in exposure of sensitive receptors to substantial pollutant concentrations. Such measures may include:</p> <ul style="list-style-type: none"> ▪ Do not locate sensitive receptors near the entry and exit points of a distribution center. ▪ Do not locate sensitive receptors in the same building as a perchloroethylene dry cleaning facility. 	<p>Less than significant</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<ul style="list-style-type: none"> ▪ Maintain a 50 foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year). ▪ Install, operate, and maintain in good working order a central heating and ventilation system or other air take system in the building, or in each individual residential unit, that meets the efficiency standard of the minimum efficiency reporting value 13. The heating and ventilation system should include the following features: Installation of a high efficiency filter and/or carbon filter-to-filter particulates and other chemical matter from entering the building. Either high efficiency particulate absorption filters or American Society of Heating, Refrigeration, and Air-Conditioning Engineers 85% supply filters should be used. ▪ Retain a qualified heating and ventilation consultant or high efficiency particulate absorption rate during the design phase of the project to locate the heating and ventilation system based on exposure modeling from the mobile and/or stationary pollutant sources. ▪ Maintain positive pressure within the building. ▪ Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air. ▪ Achieve a performance standard of at least 4 air exchanges per hour of recirculation. ▪ Achieve a performance standard of 0.25 air exchanges per hour of unfiltered infiltration if the building is not positively pressurized. 	
<p>Impact AQ-4. Construction of transportation improvement projects and the land use pattern envisioned by the 2020 RTP/SCS would generate short-term air pollutant emissions. Due to the inclusion of a larger number of projects, implementation of the 2020 RTP/SCS would potentially result in higher quantities of short-term air pollutant emissions than implementation of the 2016 RTP/SCS. However, with mitigation, impacts would remain less than significant.</p>	<p>AQ-1. BCAG shall and sponsor agencies can and should ensure that all feasible and appropriate mitigation measures set by BCAQMD are implemented. The measures shall be noted on all construction plans, and the lead agency shall perform periodic site inspections. BCAQMD rules and regulations on construction include, but are not limited to, the following:</p> <ul style="list-style-type: none"> ▪ Mix backfill soil with water prior to moving; ▪ Prevent generation of dust plumes by applying water in sufficient quantity; 	<p>Less than significant</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<ul style="list-style-type: none"> ▪ Limit vehicular traffic and disturbances on soils where possible; ▪ Grade each project phase separately, timed to coincide with construction phase; ▪ Use tarps or other suitable enclosures on haul trucks; ▪ Maintain effective cover over materials; ▪ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes; ▪ Restrict vehicular access to established unpaved travel paths and limit number and size of staging area entrances and exits; ▪ Add or remove material from the downwind portion of the storage pile; ▪ Pre-water soils prior to trenching (18 inches for deep trenching activities); and ▪ Haul waste material immediately off-site. 	
<p>Impact AQ-5. Re-entrained dust from transportation sources has the potential to increase airborne particulate matter levels in the Plan Area. The 2020 RTP/SCS would decrease VMT in Butte County relative to both baseline and 2040 No Project conditions, which would contribute to lower levels of re-entrained dust from roadway activity. Impacts would remain less than significant.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Biological Resources</p>		
<p>Impact BIO-1. Similar to the 2016 RTP/SCS, implementation of projects in the 2020 RTP/SCS have the potential to result in impacts to special status species and their habitats. Implementation of mitigation measures from the 2016 RTP/SCS EIR would reduce impacts to less than significant.</p>	<p>BIO-1. Special Status Species. Prior to final design approval of individual projects, the implementing agency shall have a qualified biologist conduct a field reconnaissance of the environmental limits of the project in an effort to identify any biological constraints for the project, including special status plants, animals, and their habitats, as well as protected natural communities including wetland and terrestrial communities. If the biologist identifies protected biological resources within the limits of the project, the implementing agency shall first, prepare alternative designs that seek to avoid and/or minimize impacts to the biological resources. If the project cannot be designed without complete avoidance, the implementing agency shall coordinate with the appropriate regulatory agency (i.e., USFWS, NMFS, CDFG, USACE) to obtain</p>	<p>Less than significant after mitigation</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>regulatory permits and implement project - specific mitigation prior to any construction activities.</p> <p>For projects that are located within the BRCP Plan Area, and are constructed after final approval and permitting of the BRCP, the implementing agency shall coordinate with the BRCP administrator to verify whether the project is a covered activity under the BRCP. If so, the implementation agency will follow the BRCP program for environmental compliance. This would include determining land cover present on the project site, conducting any necessary surveys, determining applicable avoidance and minimization measures, and paying the appropriate mitigation fees or providing land in lieu of fees as established by the BRCP.</p>	
<p>Impact BIO-2. Similar to the 2016 RTP/SCS, implementation of projects in the 2020 RTP/SCS have the potential to result in impacts to Riparian Habitat or Other Sensitive Natural Communities. Implementation of mitigation measures from the 2016 RTP/SCS EIR would reduce impacts to less than significant.</p>	<p>BIO-2(a) Aquatic Environment Documentation. Prior to approval of individual projects, the implementing agency shall retain a qualified biologist to perform an assessment of the project area to identify wetlands, riparian, and other sensitive aquatic environments. If wetlands are present the qualified biologist shall perform a wetland delineation following the 1987 Army Corps of Engineers Wetlands Delineation Manual and any applicable regional supplements to the Delineation Manual. The wetland delineation shall be submitted to the USACE for verification.</p> <p>BIO-2(b) Aquatic Environment Avoidance and Minimization. If wetlands, riparian, or other sensitive aquatic environments are found within the project limits, the implementing agency shall design or modify the project to avoid direct and indirect impacts on these habitats, if feasible. Additionally, the implementing agency shall minimize the loss of riparian vegetation by trimming rather than removal where feasible.</p> <p>Prior to construction, the implementing agency shall install orange construction barrier fencing to identify environmentally sensitive areas around the wetland (20' from edge), riparian area (100' from edge), and other aquatic habitats (250' from edge of vernal pool), or as defined by the agency with regulatory authority over the resource(s). The location of the fencing shall be marked in the field with stakes and</p>	<p>Less than significant after mitigation</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>flagging and shown on the construction drawings. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction period. The following paragraph will be included in the construction specifications:</p> <p>The Contractor's attention is directed to the areas designated as "environmentally sensitive areas." These areas are protected, and no entry by the Contractor for any purpose will be allowed unless specifically authorized in writing by the BCAG. The Contractor will take measures to ensure that Contractor's forces do not enter or disturb these areas, including giving written notice to employees and subcontractors.</p> <p>Temporary fences around the environmentally sensitive areas will be installed as the first order of work. Temporary fences will be furnished, constructed, maintained, and removed as shown on the plans, as specified in the special provisions, and as directed by the project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least 4 feet high (Tensor Polygrid or equivalent). The fencing will be tightly strung on posts with a maximum 10-foot spacing.</p> <p>Immediately upon completion of construction activities the contractor shall stabilize exposed soil/slopes. On highly erodible soils/slopes, use a nonvegetative material that binds the soil initially and breaks down within a few years. If more aggressive erosion control treatments are needed, geotextile mats, excelsior blankets, or other soil stabilization products will be used. All stabilization efforts should include habitat restoration efforts.</p> <p>BIO-2(c) Compensation for Loss of Aquatic Environments.</p> <p>If wetlands or riparian habitat are disturbed as part of an individual project, the implementing agency shall compensate for the disturbance to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site -specific information and determined through coordination with state, federal, and local agencies as part of the permitting process for the project. Unless determined otherwise by the regulatory/permitting agency, the compensation shall be at a</p>	

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>minimum ratio of 3 acres restored, created, and/or preserved for every 1 acre disturbed. Compensation may comprise onsite restoration/creation, off -site restoration, preservation, or mitigation credits (or a combination of these elements). The implementing agency shall develop and implement a restoration and monitoring plan that describes how the habitat shall be created and monitored over a minimum period of time.</p>	
<p>Impact BIO-3. Similar to the 2016 RTP/SCS, implementation of projects in the 2020 RTP/SCS may interfere with wildlife movement. Implementation of mitigation measures from the 2016 RTP/SCS EIR would reduce impacts to less than significant implementation of projects in the 2020 RTP.</p>	<p>BIO-3. Wildlife Corridors. Prior to design approval of individual projects that contain movement habitat, the implementing agency shall incorporate economically viable design measures, as applicable and necessary, to allow wildlife or fish to move through the transportation corridor, both during construction activities and post construction. Such measures may include appropriately spaced breaks in a center barrier, or other measures that are designed to allow wildlife to move through the transportation corridor. If the project cannot be designed with these design measures (i.e., due to traffic safety, etc.) the implementing agency shall coordinate with the appropriate regulatory agency (i.e., USFWS, NMFS, CDFW) to obtain regulatory permits and implement alternative project-specific mitigation prior to any construction activities.</p>	<p>Less than significant after mitigation</p>
<p>Impact BIO-4. Similar to the 2016 RTP/SCS, construction activities associated with implementation of proposed transportation improvements and the land use scenario envisioned in the 2020 RTP/SCS may result in the introduction and spread of noxious weeks. Mitigation from the 2016 RTP/SCS EIR would reduce impacts to less than significant.</p>	<p>BIO-4. Noxious Weed Survey. Prior to approval of individual projects, the implementing agency shall retain a qualified biologist determine whether noxious weeds are an issue for the project. If the biologist determines that noxious weeds are an issue, the implementing agency shall review the noxious weed list from the County Agricultural Commission, California Department of Food and Agriculture, and the California Exotic Pest Plant Council to identify target weed species for a field survey. Noxious weed infestations shall be mapped and documented. The implementing agency shall incorporate the following measures into project plans and specifications:</p> <ul style="list-style-type: none"> ▪ Certified, weed-free, imported erosion-control materials (or rice straw in upland areas) will be used. ▪ The project sponsor will coordinate with the county agricultural commissioner and land management agencies to 	<p>Less than significant after mitigation</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>ensure that the appropriate BMPs are implemented.</p> <ul style="list-style-type: none"> ▪ Construction supervisors and managers will be educated about noxious weed identification and the importance of controlling and preventing their spread. ▪ Equipment will be cleaned at designated wash stations after leaving noxious weed infestation areas. 	
<p>Impact BIO-5. Similar to the 2016 RTP/SCS, implementation of projects in the 2020 RTP/SCS may impact the Butte Regional Conservation Plan. Impacts would be less than significant with implementation of mitigation from the 2016 RTP/SCS EIR.</p>	<p>BIO-5. Coordinate with BCAG. Prior to design approval of individual projects, the implementing agency shall coordinate with BCAG to determine the appropriate coverage, permits, compensatory mitigation or fees, and project specific avoidance, minimization, and mitigation measures.</p>	<p>Less than significant after mitigation</p>
<p>Cultural and Paleontological Resources</p>		
<p>Impact CR-1. Implementation of proposed transportation improvements and the land use scenario envisioned by the 2020 RTP/SCS could disturb known and unknown cultural resources, relative to the 2020 RTP/SCS. Impacts to archaeological and paleontological resources would remain significant but mitigable and impacts to historical resources would remain significant and unavoidable.</p>	<p>CUL-1(a) Cultural Resources Study. The project sponsor of a 2020 RTP/SCS project involving earth disturbance, the installation of pole signage or lighting, or construction of permanent above ground structures or roadways shall ensure that the following elements are included in the project’s individual environmental review:</p> <ol style="list-style-type: none"> 1. Prior to construction, a map defining the Area of Potential Effects (APE) shall be prepared on a project by project basis for 2020 RTP/SCS improvements which involve earth disturbance, the installation of pole signage or lighting, or construction of permanent above ground structures. This map will indicate the areas of primary and secondary disturbance associated with construction and operation of the facility and will help in determining whether known archaeological, paleontological or historical resources are located within the impact zone. 2. A preliminary study of each project area, as defined in the APE, shall be completed to determine whether or not the project area has been studied under an earlier investigation, and to determine the impacts of the previous project. 3. If the results of the preliminary studies indicate additional studies are necessary; development of field studies and/or other documentary research shall be developed and completed (Phase I studies). Negative results would result in 	<p>Significant and Unavoidable</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>no additional studies for the project area.</p> <p>4. Based on positive results of the Phase I studies, an evaluation of identified resources shall be completed to determine the potential eligibility/significance of the resources (Phase II studies).</p> <p>5. Phase II mitigation studies shall be coordinated with the Office of Historic Preservation, as the research design will require review and approval from the OHP. In the case of prehistoric or Native American related resources, the Native American Heritage Commission and/or local representatives of the Native American population shall be contacted and permitted to respond to the testing/mitigation programs.</p>	
	<p>CUL-1(b) Cultural Resources Monitor.</p> <p>If development of the proposed improvement requires the presence of an archaeological, Native American, or paleontological monitor, the project sponsor shall ensure that a Native American monitor, certified archaeologist, and/or certified paleontologist, as applicable, monitors the grading and/or other initial ground altering activities. The schedule and extent of the monitoring will depend on the grading schedule and/or extent of the ground alterations. This requirement can be accomplished through placement of conditions on the project by the local jurisdiction during individual environmental review.</p>	
	<p>CUL-1(c) Material Recovery.</p> <p>The project sponsor shall ensure that materials recovered over the course of any given improvement are adequately cleaned, labeled, and curated at a recognized repository. This requirement can be accomplished through placement of conditions on the project by the local jurisdiction during individual environmental review.</p>	
	<p>CUL-1(d) Mitigation of Discovered Resources.</p> <p>The project sponsor shall ensure that mitigation for potential impacts to significant cultural resources includes one or more of the following:</p>	

Impact	Mitigation Measure (s)	Significance After Mitigation
	<ul style="list-style-type: none"> ▪ Realignment of the project right-of-way (avoidance; the most preferable method); ▪ Capping of the site and leaving it undisturbed; ▪ Addressing structural remains with respect to NRHP guidelines (Phase III studies); ▪ Relocating structures per NRHP guidelines; ▪ Creation of interpretative facilities; and/or ▪ Development of measures to prevent vandalism. <p>This can be accomplished through placement of conditions on the project by the local jurisdiction during individual environmental review.</p>	
<p>Impact CUL-2. Implementation of proposed transportation improvements and the land use scenario envisioned by the 2020 RTP/SCS could disturb unknown human remains during construction activity, relative to the 2020 RTP/SCS. Impacts to human remains would remain significant but mitigable.</p>	<p>CUL-2. Implement Stop-Work and Consultation Procedures Mandated by Public Resources Code 5097.</p> <p>In the event of discovery or recognition of any human remains during construction or excavation activities, the implementing agency shall cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the following steps are taken:</p> <ul style="list-style-type: none"> ▪ The Butte County Coroner has been informed and has determined that no investigation of the cause of death is required. ▪ If the remains are of Native American origin, either of the following steps will be taken: <ul style="list-style-type: none"> ▫ The coroner will contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner will make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains. ▫ The implementing agency or its authorized representative will retain a Native American monitor, and an archaeologist, if recommended by 	<p>Less than significant after mitigation</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:</p> <ul style="list-style-type: none"> ▫ The Native American Heritage Commission is unable to identify a descendent. ▫ The descendant identified fails to make a recommendation. ▫ The implementing agency or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. 	
Energy		
<p>Impact E-1. Future transportation improvement projects and implementation of the land use scenario envisioned by the 2020 RTP/SCS would not result in a significant environmental impact due to the wasteful, inefficient, or unnecessary consumption of energy resources. Impacts would be less than significant.</p>	<p>None required</p>	<p>Less than significant</p>
Geology and Soils		
<p>Other Environmental Issue Areas Analyzed – Section 4.12.2 Geology and Soils</p>	<p>GEO-1(a) For a 2020 RTP/SCS project involving a bridge, the lead agency shall ensure that the structure is designed and constructed to the latest geotechnical standards. In most cases, this will necessitate site-specific geologic and soils engineering investigations to exceed the code for high ground shaking zones. This can be accomplished through the placement of conditions on the project by the lead agency during individual environmental review.</p> <p>GEO-1(b) For a 2020 RTP/SCS project involving a bridge, the lead agency shall ensure that the structure is designed and constructed to</p>	<p>Less than significant after mitigation</p>
Greenhouse Gas Emissions		
<p>Impact GHG-1. Construction of transportation improvement projects and the land use pattern envisioned by the 2020 RTP/SCS would generate short-term GHG emissions. Due to the</p>	<p>GHG-1. Construction Emissions Measures. BCAG shall and sponsor agencies can and shall ensure that diesel particulate exhaust from construction equipment apply the following applicable GHG-reducing</p>	<p>Less than significant</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
<p>inclusion of a larger number of projects, implementation of the 2020 RTP/SCS would potentially result in higher quantities of short-term GHG emissions than implementation of the 2016 RTP/SCS. However, with mitigation from the 2016 RTP/SCS EIR, impacts would be less than significant.</p>	<p>measures recommended by the Butte County Air Quality Management District (BCAQMD):</p> <ul style="list-style-type: none"> ▪ Fuel all off-road and portable diesel-powered equipment with CARB certified motor vehicle diesel fuel; ▪ Use diesel construction equipment meeting CARB’s Tier 2 certified engines or cleaner (i.e., Tier 3 or 4) off-road heavy-duty diesel engines, and comply with State Off-Road Regulation; ▪ Use on-road heavy-duty trucks that meet CARB’s 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation; ▪ Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures may be eligible by proving alternative compliance; ▪ Electrify equipment when feasible; ▪ Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and ▪ Use alternatively fueled construction equipment on site where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel. 	
<p>Impact GHG-2. Implementation of the 2020 RTP/SCS would not increase GHG emissions compared to the 2040 No Project scenario and 2018 baseline. This impact would remain less than significant.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Impact GHG-3. Implementation of the 2020 RTP/SCS would not interfere with the GHG emissions goals of AB 32, SB 32, or SB 375. Therefore, this impact would remain less than significant.</p>	<p>None required</p>	<p>Less than significant</p>
<p>Hydrology and Water Quality</p>		
<p>Other Environmental Issue Areas Analyzed – Section 4.12.4 Hydrology and Water Quality</p>	<p>W-1(a) The sponsor agency of a 2020 RTP/SCS project shall ensure that fertilizer/pesticide application plans for any new right-of-way landscaping are prepared to minimize deep percolation of contaminants. The plans shall specify the use of products that are safe for use in and around aquatic environments.</p> <p>W-1(b) The sponsor agency of a 2020 RTP/SCS widening or roadway extension project shall ensure that the improvement directs runoff</p>	<p>Less than significant after mitigation</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>into subsurface percolation basins and traps which would allow for the removal of urban pollutants, fertilizers, pesticides, and other chemicals.</p> <p>W-1(c) For a 2020 RTP/SCS project that would disturb at least one acre, a SWPPP shall be developed prior to the initiation of grading and implemented for all construction activity on the project site. The SWPPP shall include specific BMPs to control the discharge of material from the site and into the creeks and local storm drains. BMP methods may include, but would not be limited to, the use of temporary retention basins, straw bales, sand bagging, mulching, erosion control blankets and soil stabilizers.</p> <p>W-2(a) If a 2020 RTP/SCS project is located in an area with high flooding potential due a storm event or dam inundation, the individual project lead agency shall ensure that the structure is elevated at least one foot above the 100-year flood zone elevation and that bank stabilization and erosion control measures are implemented along creek crossings.</p> <p>W-2(b) For 2020 RTP/SCS projects within a dam failure inundation hazard zone, the project’s lead agency shall ensure that a comprehensive flood risk communication strategy is developed, which would include an evacuation plan and/or an Emergency Action Plan and promote dam failure risk awareness and safety.</p>	
Land Use and Planning		
<p>Other Environmental Issue Areas Analyzed – Section 4.12.5 Land Use and Planning</p>	<p>LU-1(a) The individual project lead agency of 2020 RTP/SCS projects with the potential to displace residences or businesses should assure that project-specific environmental reviews consider alternative alignments and developments that avoid or minimize impacts to nearby residences and businesses.</p> <p>LU-1(b) Where project-specific reviews identify displacement or relocation impacts that are unavoidable, the individual project lead agency should ensure that all applicable local, state, and federal relocation programs are used to assist eligible persons to</p>	<p>Less than significant after mitigation</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>relocate. In addition, the lead agency shall review the proposed construction schedules to ensure that adequate time is provided to allow affected businesses to find and relocate to other sites.</p> <p>LU-1(c) For all 2020 RTP/SCS projects that could result in temporary lane closures or access blockage during construction, a temporary access plan should be implemented by the lead agency to ensure continued access to affected cyclists, businesses, and homes. Appropriate signs and safe access shall be guaranteed during project construction to ensure that businesses remain open.</p>	
Noise		
<p>Impact N-1. Construction of individual projects facilitated by the 2020 RTP/SCS would temporarily generate increased noise levels relative to the 2016 RTP/SCS, potentially affecting nearby noise-sensitive land uses. Construction noise may still exceed noise standards and mitigation would reduce impacts to a less than significant level.</p>	<p>N-1. Construction Noise Reduction. BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for transportation projects. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.</p> <p>a) Equipment Staging Areas. Sponsor agencies of 2020 RTP/SCS projects shall ensure that, where residences or other noise sensitive uses are located within 800 feet of construction sites, appropriate measures shall be implemented to ensure consistency with local noise ordinance requirements relating to construction. Specific techniques may include, but are not limited to, restrictions on construction timing, use of sound blankets on construction equipment, and the use of temporary walls and noise barriers to block and deflect noise.</p> <p>b) Electrically-Powered Tools and Facilities. If a particular project within 800 feet of sensitive receptors requires pile driving, the sponsor agency in which this project is located shall require the use of pile drilling techniques instead, where feasible. This shall be accomplished through the placement of conditions on the project during its individual environmental review.</p> <p>c) Smart Back-up Alarms. Sponsor agencies shall ensure that equipment and trucks used for project construction utilize the best available noise control techniques (including mufflers, use of intake</p>	<p>Less than significant after mitigation</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds).</p> <p>d) Additional Noise Attenuation Techniques. Sponsor agencies shall ensure that impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction be hydraulically or electrical powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, use of an exhaust muffler on the compressed air exhaust can lower noise levels from the exhaust by up to about 10 dBA. When feasible, external jackets on the impact equipment can achieve a reduction of 5 dBA. Whenever feasible, use quieter procedures, such as drilling rather than impact equipment operation.</p> <p>e) Stationary Noise Sources. Locate stationary noise sources as far from sensitive receptors as possible. Stationary noise sources that must be located near existing receptors will be adequately muffled.</p>	
Population and Housing		
<p>Impact PH-1. The 2020 RTP/SCS would not result in substantial population growth in Butte County. This impact is less than significant.</p>	None required	Less than significant
<p>Impact PH-2. The 2020 RTP/SCS would not displace existing housing and people as transportation projects are developed. Impacts would be less than significant.</p>	None required	Less than significant
Transportation		
<p>Impact T-1. Implementation of proposed transportation improvements under the 2020 RTP/SCS would not result in additional conflicts with programs and plans related to the circulation system, relative to the 2016 RTP/SCS. Impacts would remain less than significant.</p>	None required	Less than significant
<p>Impact T-2. Implementation of proposed transportation improvements under the 2020 RTP/SCS have the potential to interfere with achievement of the VMT reductions set forth in CARB’s 2017 Scoping Plan. Impacts would be greater than the</p>	<p>T-1. Identified Tribal Cultural Resources Impact Minimization.</p> <p>The state recognized that additional state policy actions and funding would be required to close the VMT gap between what the MPOs could achieve through implementation of their SCSs, and</p>	Significant and Unavoidable

Impact	Mitigation Measure (s)	Significance After Mitigation
<p>2016 RTP/SCS and significant and unavoidable.</p>	<p>reductions needed to meet state goals. Though the state must initiate these additional actions and funding programs, the exact form of the policies and funding programs must be collaboratively developed with input from MPOs, local agencies, and other organizations to ensure they provide the tools and incentives necessary to go beyond the SCSs in reducing VMT.</p> <p>Consequently, BCAG shall work collaboratively with Butte County and the cities of Biggs, Chico, Gridley, Oroville, and Town of Paradise to support implementation of regional and local-level strategies and measures to achieve further VMT reductions. Implementing agencies (i.e., Butte County and the cities of Biggs, Chico, Gridley, Oroville, and Paradise) shall implement the following strategies to reduce VMT.</p> <p>Local Level:</p> <p>Implementing agencies shall require implementation of VMT reduction strategies through transportation demand management (TDM) programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT. Programs should be designed to reduce VMT from existing land uses, where feasible, and from new discretionary residential or employment land use projects. The following strategies from Quantifying Greenhouse Gas Mitigation Measure, CAPCOA, August 2010 were identified as strategies most suited to Butte County and the cities of Biggs, Chico, Gridley, Oroville, and Town of Paradise, given the rural and suburban land use context:</p> <ol style="list-style-type: none"> 1. Increase diversity of land uses – This strategy focuses on the inclusion of mixed uses within projects or in consideration of the surrounding area to minimize vehicle travel in terms of both the number of trips and the length of those trips. 2. Provide pedestrian network improvements – This strategy focuses on creating a pedestrian network within the project and connecting to nearby destinations. Projects in Butte County tend to be small, so the emphasis of this strategy would likely be the construction of network improvements that connect the project site directly to nearby destinations. Alternatively, 	

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>implementation could occur through an impact fee program or benefit/assessment district targeted to various areas in the county designated for improvements through local or regional plans. Implementation of this strategy may require regional or local agency coordination and may not be applicable for all individual land use development projects.</p> <p>3. Provide traffic calming measures and low-stress bicycle network improvements – This strategy combines the CAPCOA research focused on traffic calming with new research on providing a low-stress bicycle network. Traffic calming creates networks with low vehicle speeds and volumes that are more conducive to walking and bicycling. Building a low-stress bicycle network produces a similar outcome. Implementation options are similar to strategy 2 above. One potential change in this strategy over time is that e-bikes (and e-scooters) could extend the effective range of travel on the bicycle network, which could enhance the effectiveness of this strategy.</p> <p>4. Implement car-sharing program – This strategy reduces the need to own a vehicle or reduces the number of vehicles owned by a household by making it convenient to access a shared vehicle for those trips where vehicle use is essential. Note that implementation of this strategy would require regional or local agency implementation and coordination and would not likely be applicable for individual development projects.</p> <p>5. Increase transit service frequency and speed – This strategy focuses on improving transit service convenience and travel time competitiveness with driving. Given land use density in Butte County, this strategy may be limited to traditional commuter transit where trips can be pooled at the start and end locations or require new forms of demand-responsive transit service. The demand-responsive service could be provided as subsidized trips by contracting to private Transportation Network Companies (TNCs, such as Uber, Lyft, and Via) or taxi companies. Alternatively, a public transit operator could provide the subsidized service but</p>	

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>would need to improve on traditional cost effectiveness by relying on TNC ride-hailing technology, using smaller vehicles sized to demand, and flexible driver employment terms where drivers are paid by trip versus by hour. Note that implementation of this strategy would require regional or local agency implementation, substantial changes to current transit practices, and would not likely be applicable for individual development projects.</p> <p>6. Implement subsidized or discounted transit program – This strategy reduces the need to own a vehicle or reduces the number of vehicles owned by a household by incentivizing individuals to use transit for their daily commute. This strategy depends on the ultimate building tenants – whether residential landlords or businesses – and may require monitoring. This strategy also relies on B-Line continuing to provide similar or better service throughout the county, in terms of frequency and speed.</p> <p>7. Encourage telecommuting and alternative work schedules – This strategy relies on effective internet access and speeds to individual project sites/buildings to provide the opportunity for telecommuting. The effectiveness of the strategy depends on the ultimate building tenants and the nature of work done by tenants’ employees (can the work be done remotely in the first place?); two factors that should be considered for potential VMT reduction. Effectiveness may also be limited in more rural areas of the county with limited broadband internet access.</p> <p>8. Provide ride-sharing programs – This strategy focuses on encouraging carpooling and vanpooling by project site/building tenants, which depends on the ultimate building tenants; this should be a factor in considering the potential VMT reduction.</p> <p>Regional Implementing agencies shall require project modifications during the project design and environmental review stage of project development that would reduce VMT effects. For roadway capacity expansion projects, this would include but is not limited to demand management through</p>	

Impact	Mitigation Measure (s)	Significance After Mitigation
	transportation systems management and operations (TSMO) including the use of pricing.	
<p>Impact T-3. Implementation of proposed transportation improvements under the 2020 RTP/SCS would not substantially increase hazards due to geometric design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (less than significant), relative to the 2016 RTP/SCS. Impacts would remain less than significant.</p>	None required	Less than significant
<p>Impact T-4. Implementation of proposed transportation improvements under the 2020 RTP/SCS would not result in inadequate emergency access, relative to the 2016 RTP/SCS. Impacts would remain less than significant.</p>	None required	Less than significant
Tribal Cultural Resources		
<p>Impact TCR-1. Implementation of proposed transportation improvements and future projects included in the land use scenario envisioned in the 2020 RTP/SCS has the potential to impact tribal cultural resources. Impacts would be less than significant with mitigation incorporated.</p>	<p>TCR-1(a). Identified Tribal Cultural Resources Impact Minimization.</p> <p>Transportation project sponsor agencies shall comply with AB 52, which may require formal tribal consultation. If the implementing agency determines that a project may cause a substantial adverse change to a tribal cultural resource, they shall implement mitigation measures identified in the consultation process required under PRC Section 21080.3.2, or shall implement the following measures where feasible to avoid or minimize the project-specific significant adverse impacts:</p> <ul style="list-style-type: none"> a) Avoidance and preservation of the resources in place, including, but not limited to: designing and building the project to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space to incorporate the resources with culturally appropriate protection and management criteria. b) Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: <ul style="list-style-type: none"> ▫ Protecting the cultural character and integrity of the resource ▫ Protecting the traditional use of the resource 	Less than significant after mitigation

Impact	Mitigation Measure (s)	Significance After Mitigation
	<ul style="list-style-type: none"> ▫ Protecting the confidentiality of the resource c) Establishment of permanent conservation easements or other culturally appropriate property management criteria for the purposes of preserving or utilizing the resources or places. d) Native American monitoring by the appropriate tribe during soil disturbance for all projects in areas identified as sensitive for potential tribal cultural resources and/or in the vicinity (within 100 feet) of known tribal cultural resources <p>TCR-1(b). Unanticipated Tribal Cultural Resources Impact Minimization.</p> <p>If unanticipated potential tribal cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and the appropriate tribal representative(s), the implementing agency, and an archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for archaeology (National Park Service [NPS] 1983) shall be contacted immediately to evaluate the find. If, in consultation with the implementing agency, the archaeologist and/or tribal representative determines the discovery to be a tribal cultural resource and thus, significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with tribal representatives. If the resource cannot be avoided, a mitigation plan shall be developed to address tribal concerns.</p>	
Utilities and Service Systems		
<p>Other Environmental Issue Areas Analyzed – Section 4.12.8 Utilities and Service Systems</p>	<p>UTI-1(a) The individual lead agency of a 2020 RTP/SCS project shall ensure that, where economically feasible, reclaimed water is used for dust suppression during construction activities. This measure shall be noted on construction plans and shall be spot checked by the lead agency.</p> <p>UTI-1(b) The individual lead agency of a 2020 RTP/SCS project shall ensure that low water use landscaping (i.e., drought tolerant plants and drip irrigation) is installed. When feasible, native plant species shall be used.</p> <p>UTI-1(c)</p>	<p>Less than significant after mitigation</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>The individual lead agency of a 2020 RTP/SCS project shall ensure that, if feasible, landscaping associated with proposed improvements is maintained using reclaimed water.</p> <p>UTI-1(d)</p> <p>The individual lead agency of a 2020 RTP/SCS project shall ensure that porous pavement materials are utilized, where feasible, to allow for groundwater percolation.</p> <p>UTI-1(e)</p> <p>The individual lead agency of a 2020 RTP/SCS project that requires potable water service should coordinate with water supply system operators to ensure that the existing water supply systems have the capacity to handle the increase. If the current infrastructure servicing the project site is found to be inadequate, infrastructure improvements for the appropriate public service or utility should be provided by the project sponsor. In addition, wherever feasible, reclaimed water should be used for landscaping purposes instead of potable water.</p>	
Wildfire		
<p>Impact WF-1. The 2020 RTP/SCS includes projects within areas of moderate, high, and very high fire hazard severity zones. A significant risk of loss, injury, or death from wildfires would occur for land use and transportation projects located in or near (within 2 miles of) SRAs or very high fire hazard severity zones. Implementation of Mitigation Measure WF-1 would reduce impacts; however, wildfire risk cannot be completely avoided, and impacts would remain significant and unavoidable.</p>	<p>WF-1. Wildfire Risk Reduction.</p> <p>If an individual transportation or land use project included in the 2020 RTP/SCS is located within or less than 2 miles from an SRA or very high fire hazard severity zones, the implementing agency shall require appropriate mitigation to reduce the risk. Examples of mitigation to reduce risk of loss, injury or death from wildfire include, but are not limited to:</p> <ul style="list-style-type: none"> ▪ Require adherence to the local hazards mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildfires through land use compatibility, training, sustainable development, brush management, public outreach and service standards for fire departments. ▪ Encourage the use of fire-resistant vegetation native to Butte County and/or the local microclimate of the project site, and discourage the use of fire-prone species especially non-native, invasive species. ▪ Require a fire safety plan be submitted to and approved by the local fire protection agency. The fire safety plan 	<p>Significant and Unavoidable</p>

Impact	Mitigation Measure (s)	Significance After Mitigation
	<p>shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. The local fire protection agency may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase of the project.</p> <ul style="list-style-type: none">▪ Prohibit certain project construction activities with potential to ignite wildfires during red-flag warnings issued by the National Weather Service for the project site location. Example activities that should be prohibited during red-flag warnings include welding and grinding outside of enclosed buildings.▪ Require fire extinguishers to be onsite during construction of projects. Fire extinguishers shall be maintained to function according to manufacturer specifications. Construction personnel shall receive training on the proper methods of using a fire extinguisher	

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1 Introduction

This document is a Supplemental Environmental Impact Report (SEIR) for the 2020 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) proposed by the Butte County Association of Governments (BCAG). This SEIR augments the previously certified Environmental Impact Report (EIR) for the 2016 RTP/SCS (State Clearinghouse No. 2016092038). The BCAG Board of Supervisors certified the EIR on December 8, 2016, at which time the 2016 RTP/SCS was also adopted. For purposes of this SEIR, the previously certified EIR is referred to herein as the 2016 EIR.

This section of the SEIR describes the following aspects of the 2020 RTP/SCS and SEIR: (1) project background; (2) purpose and legal authority; (3) SEIR background; (4) SEIR organization; (5) baseline and approach for impact analysis; and (6) environmental review process.

1.1 Project Background

As both the federally-designated metropolitan planning organization (MPO) and the State-designated regional transportation planning agency (RTPA) for Butte County, BCAG is required by both federal and State law to prepare an RTP to serve as a long-range (at least 20-year) transportation planning document. State and federal law also requires that the RTP be updated every four years. The proposed 2020 RTP/SCS is an update of the current 2016 RTP/SCS. The 2016 RTP/SCS was adopted by BCAG Board of Supervisor on December 8, 2016 and programs available transportation funding through the year 2040. The 2016 RTP/SCS includes lists of programmed and planned transportation projects to improve the transportation system during the 2016-2035 planning period. Among these listed projects were highway, road and street projects, aviation projects, and transit projects. Although a number of projects from the 2016 RTP/SCS have been completed, many have not. Additionally, new projects have been incorporated into the 2020 RTP/SCS. The transportation improvement projects shown in Table 1-1 are 2016 RTP/SCS projects that have completed since the certification of the 2016 EIR or have been removed from the 2020 project list. Therefore, these projects are not included in the 2020 project list or the 2020 RTP/SCS. The remaining projects from the 2016 RTP/SCS that are yet to be completed, in addition to new projects added in this cycle, are included in the 2020 RTP/SCS.

Table 1-1 2016 RTP/SCS EIR Completed Projects

Project Type	Title	Jurisdiction
Transit	Butte Regional Transit - Capital and Operating Assistance	BCAG
Transit	Butte Regional Transit -Equipment Program	BCAG
Transit	Paratransit Assistance Program	BCAG & Work Training Center
Bicycle & Pedestrian	Safe Routes to Schools Program	Biggs
Bicycle & Pedestrian	Autry Lane and Monte Vista Safe Routes to Schools Gap Closure Project	Butte County
Bicycle & Pedestrian	Monte Vista and Lower Wyandotte Class II Bike Project	Butte County
Bicycle & Pedestrian	Esplanade Corridor Safety and Accessibility Improvement Project	Chico
Bicycle & Pedestrian	SR 99 Bikeway Phase 4 Improvements	Chico
Bicycle & Pedestrian	SR 99 Corridor Bikeway Phase 5 - 20th Street Crossing	Chico

Project Type	Title	Jurisdiction
Bicycle & Pedestrian	SR 162 Pedestrian/Bicycle Disabled Mobility and Safety Improvements Project	Oroville
Safety	Local Highway Bridge Program (HBP Grouped) - Ord Ferry Road over Tributary to Little Chico Creek west of River Road	Butte County
Safety	Local Highway Bridge Program (HBP Grouped) - Midway Road over Butte Creek	Butte County
Safety	Local Highway Bridge Program (HBP Grouped) – E. Rio Bonito Road over Hamilton Slough	Butte County
Safety	Local Highway Bridge Program (HBP Grouped) - E Rio Bonito Road over Sutter-Butte Canal	Butte County
Safety	Local Highway Bridge Program (HBP Grouped) - Ord Ferry Road Over Little Chico Creek	Butte County
Safety	Central House Rd Over Wymann Ravine Bridge	Butte County
Safety	SR 70 Passing Lanes (Segment 1)	Caltrans
Safety	SR 70 Passing Lanes (Segment 2)	Caltrans
Safety	SR 70 Passing Lanes (Segment 3)	Caltrans
Safety	Local Highway Bridge Program (HBP Grouped) - Pomona Road Over Little Chico Creek	Chico
Safety	Local Highway Bridge Program (HBP Grouped) - Salem Street over Little Chico Creek	Chico
Safety	Guynn Rd over Lindo Channel Bridge Project	Chico
Capacity	SR 70 Passing Lanes (Segment 1)	Caltrans
Capacity	SR 70 Passing Lanes (Segment 2)	Caltrans
Capacity	SR 70 Passing Lanes (Segment 3)	Caltrans
Capacity	Bruce Road Widening	Chico
Capacity	E. 20th Street Widening	Chico
Capacity	Midway Road Widening	Chico

SR = State Route

The above listed projects are now considered part of the existing environmental setting, since they have been completed. They have been evaluated as part of the updated setting throughout this SEIR. In addition, urban development has been ongoing in the region since certification of the 2016 EIR, primarily concentrated in existing urban or suburban areas.

1.2 Purpose and Legal Authority

Section 21000 of the California Public Resources Code, commonly referred to as the California Environmental Quality Act (CEQA), requires the evaluation of environmental impacts associated with all planning programs or development projects proposed. As such, this SEIR is an informational document for use by BCAG, other agencies, and the general public in their consideration and evaluation of the environmental consequences of implementing the proposed 2020 RTP/SCS.

In accordance with *CEQA Guidelines* Section 15121(a), the purpose of this SEIR is to:

- Inform public agency decision makers and the public of any significant environmental effects that would result from the 2020 RTP/SCS;

- Identify possible ways to minimize significant effects; and,
- Identify reasonable alternatives to the 2020 RTP/SCS.

This SEIR has been prepared in accordance with relevant provisions of CEQA and *CEQA Guidelines*, evaluates the additional projects listed in the 2020 RTP/SCS and updates the comparison to baseline conditions (for further discussion see Section 1.5, *Baseline, Scope, and Approach for Impact Analysis*). Consistency with *CEQA Guidelines* sections pertaining to the applicability of SEIRs and program-level EIRs are provided below.

SEIRs are addressed in Section 15163 of the *CEQA Guidelines*, which states that:

The Lead Agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised;

A supplement to an EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087;

A supplement to an EIR may be circulated by itself without the recirculating the previous draft or final EIR;

When the agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the supplemental EIR. A finding under Section 15091 shall be made for each significant effect shown in the previous EIR as revised.

Pursuant to *CEQA Guidelines* Section 15163, BCAG prepared this SEIR because only minor additions and changes would be necessary to make the previously certified 2016 EIR adequately apply to the 2020 RTP/SCS. An SEIR is the appropriate level of CEQA documentation for several reasons. First, the document incorporates updates to the *CEQA Guidelines* since 2016 and includes analysis of environmental issue areas added to the *CEQA Guidelines* and not incorporated into the 2016 RTP/SCS EIR. New environmental issue areas analyzed in this SEIR include energy, wildfire, and tribal cultural resources. Section, the 2020 RTP/SCS would incorporate new requirements and regulations such as safety-related performance measures and targets under the FAST Act transportation bill and draft guidelines from the Governor's Office of Planning and Research for California's Senate Bill (SB) 743. While these new components are necessary, they are not anticipated to substantially increase the severity of impacts identified in the previously certified 2016 EIR. Third, new funding for transportation projects through California's recently approved Road Repair and Accountability Act of 2017 (SB 1) may help accelerate some regional/local projects over the next ten years. All of these components are anticipated to result in only minor updates to transportation projects and the land use scenario envisioned in the RTP/SCS (specifically focused on growth that has taken place since the last RTP/SCS).

The 2016 EIR was a Program EIR as defined in *CEQA Guidelines* Section 15168 because it enabled BCAG, as the Lead Agency, to examine the overall effects of a series of actions that can be characterized as one large project. Consistent with the 2016 EIR, this SEIR is a program EIR under Section 15168(a) of the *CEQA Guidelines*. Section 15168(a) states that:

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

Once a Program EIR has been prepared, subsequent activities under the program must be evaluated to determine what, if any, additional CEQA documentation needs to be prepared. If the Program EIR addresses the program’s effects as specifically and comprehensively as possible, many subsequent activities could be found to be in the Program EIR scope and additional environmental documents may not be required (CEQA Guidelines § 15168(c)). When a Program EIR is relied upon for a subsequent activity, the Lead Agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities (CEQA Guidelines Section 15168(c)(3)). If a subsequent activity would have effects not addressed in the Program EIR, the Lead Agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or project-level EIR. In this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis.

1.3 SEIR Background

In compliance with the *CEQA Guidelines* (§15063), BCAG solicited preliminary public agency comments on the project through distribution of a Notice of Preparation (NOP) and during a scoping meeting held on November 7, 2019, from 4:00 to 6:00 p.m. at the BCAG Conference Room Suite 150 in Chico.

The NOP was distributed to affected agencies and the public for the required 30-day period from October 22, 2019 to November 21, 2019. Table 1-2 summarizes the issues relevant to the SEIR that were identified in the NOP comments received and the SEIR sections where the issues are addressed. The NOP and NOP comments and letters received are included as Appendix A to this SEIR.

Table 1-2 NOP Comments and EIR Response

Commenter	Comment/Request	How and Where it was Addressed
Department of Toxic Substances Control	The commenter requests release of hazardous waste/substance, hazards relating to building demolition, soil sampling, and pesticide investigation to be included in the SEIR.	Section 4.12, <i>Other Environmental Issue Areas</i>
Native American Heritage Commission	The commenter includes background information on AB 52 and SB 18 and recommends consultation with California Native Tribes.	Section 4.10, <i>Tribal Cultural Resources</i>
Michael Garabedian	The commenter requests that the project description and SEIR include options for new and improved rail and transit service from Sacramento and Lincoln, connecting to Capitol Corridor. The commenter states that Phase 2 of the 1995 BACOG rail passenger study that included Lincoln in Placer county should be implemented.	Section 2, <i>Project Description</i> , includes rail and transit projects in the 2020 RTP/SCS. The BCAG region covers Butte County only and as the Lead Agency BCAG does not have jurisdiction over Placer County.

1.4 Scope and Content

This SEIR has been organized into seven sections. These include:

- 1) **Introduction.** Provides the project background, and information about the purpose and legal authority of a SEIR, and SEIR content and scope.
- 2) **Project Description.** Identifies the project lead agency, presents and discusses the project objectives, project locations and specific project characteristics.
- 3) **Environmental Setting.** Provides a description of the existing physical setting of the project area and an overview of the progress in implementing the 2016 RTP/SCS.
- 4) **Analysis of Environmental Issues.** Describes existing conditions found in the project area and assesses potential environmental impacts that may be generated by implementing the proposed project and cumulative development in Butte County. These potential project impacts are compared to “thresholds of significance” in order to determine the nature and severity of the direct and indirect impacts. Mitigation measures, intended to reduce adverse, significant impacts below threshold levels, are proposed where feasible. Impacts that cannot be eliminated or mitigated to less-than-significant levels are also identified.
- 5) **Other CEQA-Required Discussions.** Identifies the spatial, economic, or population growth impacts that may result from implementation of the proposed project, as well as long-term effects of the project and significant irreversible environmental changes.
- 6) **Alternatives.** Presents and assesses the potential environmental impacts of three alternatives (one no-build) analyzed in addition to implementation of the proposed 2020 RTP/SCS.
- 7) **References/Preparers.** Lists all published materials, federal, State, and local agencies, and other organizations and individuals consulted during the preparation of this SEIR. It also lists the SEIR preparers.

1.5 Baseline and Approach for Impact Analysis

The concept of a significant effect on the environment focuses on changes to the baseline physical conditions that will arise as a result of the project (*CEQA Guidelines* Section 15002(g)). Potential new impacts associated with the 2020 RTP/SCS are determined through this process as mandated by CEQA. Buildout of the 2016 EIR is measured as the baseline, except in cases of changed circumstances or new impacts not evaluated in the 2016 EIR. In these cases, existing conditions at the time the NOP for this SEIR was published are measured as baseline, consistent with Section 15125 of the *CEQA Guidelines*. As described above, the NOP for this SEIR was published on October 22, 2019.

As described above, the proposed 2020 RTP/SCS is an update of the current 2016 RTP/SCS. The impacts of the current 2016 RTP/SCS were analyzed in the previously certified 2016 EIR, which was a Program EIR. The analysis in this SEIR is also programmatic and is focused on the potential changes in environmental effects that could result from the updates to the 2016 RTP/SCS that are included in the proposed 2020 RTP/SCS, including updates or changes to policies, projects, and growth scenarios. Therefore, this SEIR is being prepared to analyze only the changes to the 2016 RTP/SCS or changes in circumstances under which the RTP/SCS projects would be implemented since certification of the previous 2016 EIR, which occurred in December 2016.

This SEIR programmatically analyzes the effects of buildout of the 2020 RTP/SCS, and the 2020 RTP/SCS consists of the probable future projects and includes a range of specific land use and

transportation projects designed to meet current and projected future needs of Butte County. Therefore, the cumulative effects of the 2020 RTP/SCS from the probable future transportation system improvements and land use projects in the region are included in the analysis of the proposed 2020 RTP/SCS impacts.

For any issue areas where impacts would be similar to or less than the impact level identified in the previous 2016 EIR, no further analysis was warranted. If previous mitigation measures from the 2016 EIR still apply and would reduce impacts to a less-than-significant level, those measures are listed in the SEIR in the same manner as in the 2016 EIR. Revisions to the mitigation measures include the replacement of “2016 RTP” with “2020 RTP/SCS” along with minor clarification and revisions, as directed by BCAG. For environmental issue areas that may result in an increased level of impact or a potential change in impact level from the 2016 EIR, based on new information or changes to regulations or circumstance since the 2016 EIR certification, those issue areas are further reviewed in this SEIR. These issues have been determined to be:

- Agriculture and Forestry
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Climate Change and Greenhouse Gas Emissions
- Noise
- Population and Housing Transportation and Circulation
- Tribal Cultural Resources
- Wildfire

1.6 Environmental Review Process

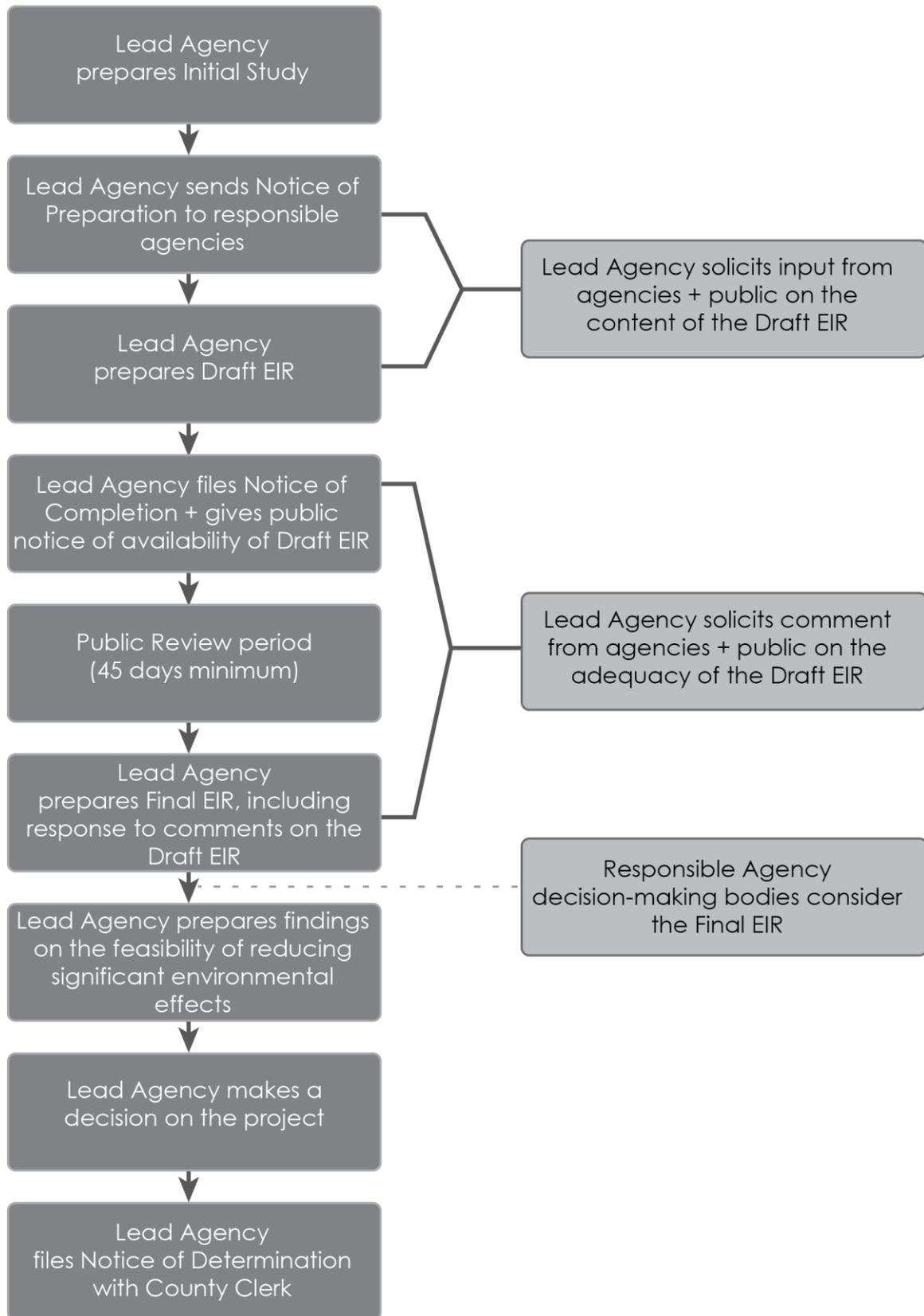
The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order. Please note that the process summarized below and shown in Figure 1-1 is for an EIR consistent with the referenced sections of the *CEQA Guidelines*. However, Section 15163(e) of the *CEQA Guidelines* requires the same kind of notice and public review for a SEIR as given to a Draft EIR. Therefore, the process summarized below is also applicable to this SEIR.

1. **Notice of Preparation (NOP).** After deciding that an EIR (or SEIR) is required, the Lead Agency (BCAG) must file a NOP soliciting input on the EIR scope (or SEIR scope) to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk’s office for 30 days.
2. **Draft EIR Prepared.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes. The contents of an SEIR, though not explicitly listed in the *CEQA Guidelines*, are generally assumed to be the same as a Draft EIR.
3. **Notice of Completion (NOC).** The Lead Agency must file a NOC with the State Clearinghouse when it completes the Draft EIR (or Draft SEIR) and prepare a Public Notice of Availability of a Draft EIR (or Draft SEIR). The Lead Agency must post the NOC in the County Clerk’s office for 30 days (Public Resources Code Section 21092) and send a copy of the NOC to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally, public notice of the Draft EIR (or Draft SEIR)

availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft EIR (or Draft SEIR) is 30 days. When a Draft EIR (or Draft SEIR) is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (Public Resources Code 21091). Pursuant to Section 15163(d) of the *CEQA Guidelines*, a SEIR may be circulated by itself without recirculating the previous Draft EIR or Final EIR that it supplements.

4. **Final EIR.** A Final EIR (or Final SEIR) must include: a) the Draft EIR (or Draft SEIR); b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of Final EIR.** Prior to making a decision on a proposed project, the Lead Agency must certify that: a) the Final EIR (or Final SEIR) has been completed in compliance with CEQA; b) the Final EIR (or Final SEIR) was presented to the decision-making body of the Lead Agency; and c) the decision making body reviewed and considered the information in the Final EIR (or Final SEIR) prior to approving a project (*CEQA Guidelines* Section 15090).
6. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR (or SEIR), the Lead Agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
7. **Lead Agency Project Decision.** The Lead Agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043). Pursuant to Section 15163(e) of the *CEQA Guidelines*, when the Lead Agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the SEIR. A finding under Section 15091 of the *CEQA Guidelines* shall be made for each significant effect shown in the previous EIR as revised.
8. **Mitigation Monitoring Reporting Program.** When the Lead Agency makes findings on significant effects identified in the EIR (or SEIR), it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination (NOD).** The Lead Agency must file a NOD after deciding to approve a project for which an EIR (or SEIR) is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30 day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).

Figure 1-1 Environmental Review Process



2 Project Description

This section describes the proposed project, including the project applicant, the project site and surrounding land uses, major project characteristics, project objectives, and discretionary actions needed for approval.

2.1 Lead Agency

Butte County Association of Governments
326 Huss Drive, Suite 150
Chico, California 95928

2.2 Lead Agency Contact Person

Iván García, Programming Manager
Butte County Association of Governments
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Chico, California 95928
igarcia@bcag.org

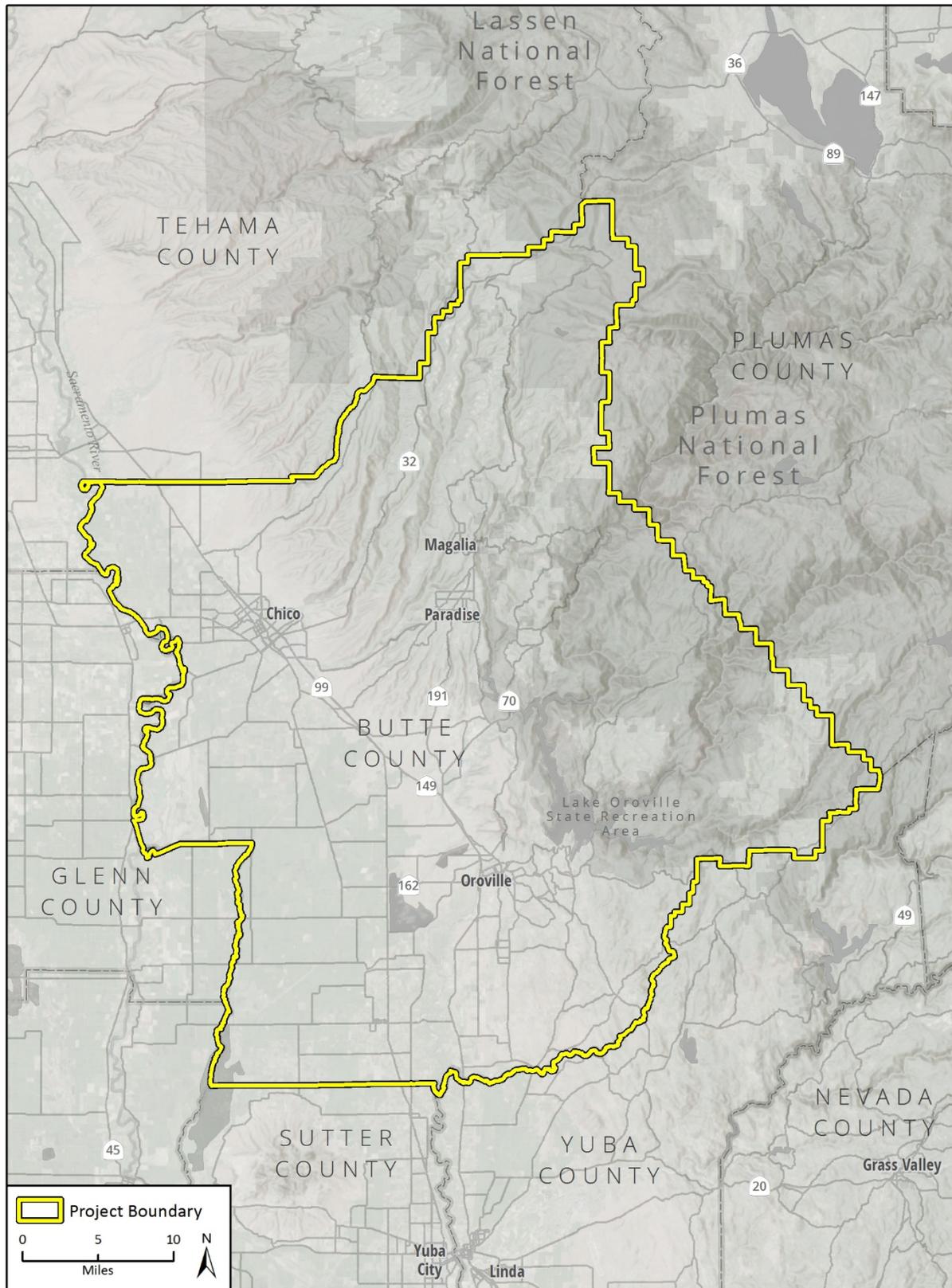
2.3 Project Location

The proposed 2020 RTP/SCS covers the entirety of Butte County including the unincorporated areas of the county and its incorporated cities, referred to herein as Plan Area. As shown in the Plan Area map in Figure 2-1, the County is situated at the northeastern end of the Sacramento Valley, bordered by Glenn County and Colusa County to the southwest, Tehama County to the north, Plumas County to the east, Yuba County to the southeast, and Sutter County to the south. State Route (SR) 99, one of California's major north-south routes, traverses the western and central portion of Butte County, while SR 70 provides north and south connectivity parallel to SR 99 in the southern portion of the County before heading northeast toward Plumas County between the cities of Oroville and Chico. SR 32 provides connectivity to the east and west along the northern portion of the County and SR 191 and 162 provide connectivity within the central portion of the County.

Butte County's 1,677 square miles encompass a diverse topography, ranging from approximately 60 feet above mean sea level (msl) in the Sacramento Valley at the County's western border, to 7,120 feet above msl at the Butte County High Point in the Plumas National Forest in the northeastern portion of the County.

The region is largely rural in character, with urban areas concentrated in the west-central, non-mountainous portion of Butte County. Three of Butte County's five incorporated cities, Biggs, Oroville, and Gridley, are located in the southern portion of the County. The incorporated Town of Paradise is located in the central portion of the County in the foothills east of Chico. Other town centers such as Forest Ranch, Cohasset, Stirling City and Forbestown are located in the mountains throughout the eastern portion of Butte County.

Figure 2-1 Regional Location



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FigX Project Location Map Butte Co

Capital improvement projects identified in the Regional Transportation Plan (RTP) are located on state highways, county roads and locally owned streets, as well as on airport property, railroad corridors, transit district property, public lands (such as recreation areas or state/federal forests), and public utility lands (such as easement areas). A description of the Plan Area is also provided in Section 3.0, *Environmental Setting*.

2.4 Project Objectives

The Butte County Association of Governments (BCAG), as both the federally-designated metropolitan planning organization (MPO) and the state-designated regional transportation planning agency (RTPA) for Butte County, is required by both federal and state law to prepare a long-range (at least 20-year) transportation planning document known as an RTP. The RTP is an action-oriented document used to achieve a coordinated and balanced regional transportation system. This section summarizes the RTP's objectives and responsibilities, as informed by relevant legislation.

BCAG also has the responsibility to update its Sustainable Communities Strategy (SCS) as part of the RTP update, pursuant to the requirements of California Senate Bill (SB) 375 as adopted in 2008 (discussed further below). The SCS sets forth a forecasted development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, is intended to reduce greenhouse gas (GHG) emissions from passenger vehicles and light trucks to achieve the regional GHG reduction targets set by the California Air Resources Board (CARB).

The California Transportation Commission's (CTC) document *2017 California Regional Transportation Plan Guidelines* serves as the guidance for RTP development. Under both federal and state law, BCAG must update its RTP every four years.¹

Sustainable Communities & Climate Protection Act Requirements (SB 375) Requirements

The Sustainable Communities Strategy and Climate Protection Act, SB 375 (codified at CAL.GOV'T CODE §§ 14522.1, 14522.2, 65080.01, 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588; CAL. PUB. RES. CODE §§ 2161.3, 21155, 21159.28), is a law passed in 2008 by the California legislature that requires each MPO to demonstrate, through the development of an SCS, how its region will integrate transportation, housing, and land use planning to meet the GHG reduction targets set by the state. In addition to creating requirements for MPOs, it also creates requirements for the CTC and CARB. Some of the requirements include the following:

- The CTC must maintain guidelines for the travel demand models that MPOs develop for use in the preparation of their RTPs;
- CARB must develop regional GHG emission reduction targets for automobiles and light trucks for 2020 and 2035 by September 30, 2010 (completed);
- Each MPO must prepare an SCS as part of its RTP to demonstrate how it will meet the regional GHG targets;

¹ 23 C.F.R. §450.322(c); Gov. Code §65080(d).

- Each MPO must adopt a public participation plan for development of the SCS that includes informational meetings, workshops, public hearings, consultation, and other outreach efforts (completed);
- If an SCS cannot achieve the regional GHG target, the MPO must prepare an Alternative Planning Strategy (APS) showing how it would achieve the targets with alternative development patterns, infrastructure, or transportation measures and policies;
- Each MPO must prepare and circulate a draft SCS at least 55 days before it adopts a final RTP;
- After adoption, each MPO must submit its SCS to the CARB for review; and
- CARB must review each SCS to determine whether, if implemented, it would meet the GHG targets. CARB must complete its review within 60 days.

In 2018, CARB revised GHG reduction targets for the BCAG region from on-road light-duty trucks and passenger vehicles as a six percent reduction from 2005 emissions levels by 2020 and a seven percent reduction from 2005 emissions levels by 2035. These targets apply to the BCAG region as a whole for all on-road light-duty trucks and passenger vehicles emissions, and not to individual cities or sub-regions.

SB 375 specifically states that local governments retain their autonomy to plan local General Plan policies and land uses. The 2020 RTP/SCS provides a regional policy foundation that local governments may build upon, if they so choose. The 2020 RTP/SCS includes and accommodates the quantitative growth projections for the region. SB 375 also requires that the RTP's forecasted development pattern for the region be consistent with the eight-year regional housing needs as allocated to member jurisdictions through the Regional Housing Needs Allocation (RHNA) process under state housing law.

In addition, this Supplemental EIR lays the groundwork for the streamlined review of qualifying development projects. Qualifying projects that meet statutory criteria and are consistent with the 2020 RTP/SCS are eligible for streamlined environmental review pursuant to CEQA under SB 375 and other laws.

Fixing America's Surface Transportation Act (FAST Act)

The most recent federal transportation legislation, Fixing America's Surface Transportation (FAST) Act builds on the changes made by MAP-21, and was enacted in 2015. The Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted in 2012, made a number of reforms to the metropolitan and statewide transportation planning processes, including incorporating performance goals, measures, and targets into the process of identifying needed transportation improvements and project selection. The FAST Act includes provisions to support and enhance these reforms. Public involvement remains a hallmark of the planning process.

The FAST Act continues requirements for a long-range plan and a short-term transportation improvement program (TIP), with the long-range statewide and metropolitan plans now required to include facilities that support intercity transportation, including intercity buses. The statewide and metropolitan long-range plans must describe the performance measures and targets that states and MPOs use in assessing system performance and progress in achieving the performance targets. Additionally, the FAST Act requires the planning process to consider projects/strategies to improve the resilience and reliability of the transportation system, address stormwater mitigation, and enhance travel and tourism.

Finally, in an effort to engage all sectors and users of the transportation network, the FAST Act requires that the planning process include public ports and private transportation providers, and further encourages MPOs to consult during this process with officials of other types of planning activities, including tourism and natural disaster risk reduction. MAP-21 and the FAST Act also change criteria for MPO officials to provide transit provider representatives with equal authority and allow the representative to also serve as the representative of a local municipality.

Through the RTP development process, the FAST Act encourages BCAG to:

- Consult with officials responsible for other types of planning activities that are affected by transportation in the area (including State and local planned growth, economic development, environmental protection, airport operations, and freight movements) or to coordinate its planning process, to the maximum extent practicable, with such planning activities.²

Specifically, the FAST Act requires that the RTP planning process:

Provide for consideration of projects and strategies that will:

- a) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- b) Increase the safety of the transportation system for motorized and non-motorized users;
- c) Increase the security of the transportation system for motorized and non-motorized users;
- d) Increase the accessibility and mobility of people and for freight;
- e) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- f) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- g) Promote efficient system management and operation;
- h) Emphasize the preservation of the existing transportation system.
- i) Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
- j) Enhance travel and tourism.³

Planning Final Rule – FAST Act

On May 27, 2016, the Statewide and Nonmetropolitan Transportation Planning and Metropolitan Transportation Planning Final Rule was issued, with an effective date of June 27, 2016, for Title 23 CFR Parts 450 and 771 and Title 49 CFR Part 613. This final rule states, “On or after May 27, 2018, an RTPA may not adopt an RTP that has not been developed according to the provisions of MAP-21/FAST Act as specified in the Planning Final Rule.” This rule applies to the 2020 RTP/SCS as its adoption date, if adopted, would occur after May 2018.

² 23 U.S.C. §134(g)(3)(A).

³ 23 U.S.C. §134(h)(1).

Environmental Justice

BCAG is required to address social equity and environmental justice in the RTP. The legal basis for environmental justice stems from the Civil Rights Act of 1964, along with Executive Order 12898 (February 1994), which states that “each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” BCAG must evaluate how the 2020 RTP/SCS might impact minority and low-income populations, and must ensure that the 2020 RTP/SCS does not have a disproportionate adverse impact on such populations.

In addition, per 23 C.F.R. §450.316(a)(1)(vii), the participation plan that BCAG must develop and use must describe explicit procedures, strategies, and desired outcomes for “[s]eeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services.” BCAG’s public participation plan is available at <http://www.bcag.org/Planning/RTP--SCS/>.

Regional Transportation Plans

As noted, the procedures for developing RTPs are provided in the CTC’s Regional Transportation Plan Guidelines (2017). The guidelines identify the purpose of an RTP to be as follows:

- Providing an assessment of the current modes of transportation and the potential of new travel options within the region;
- Projecting/estimating the future needs for travel and goods movement;
- Identification and documentation of specific actions necessary to address regional mobility and accessibility needs;
- Identification of guidance and documentation of public policy decisions by local, regional, state and federal officials regarding transportation expenditures and financing and future growth patterns;
- Identification of needed transportation improvements, in sufficient detail, to serve as a foundation for the: (a) Development of the Federal Transportation Improvement Program (FTIP), and the State Transportation Improvement Program (STIP), (b) Facilitation of the National Environmental Policy Act (NEPA)/404 integration process, and (c) Identification of project purpose and need;
- Employing performance measures that demonstrate the effectiveness of the system of transportation improvement projects in meeting the intended goals;
- Promotion of consistency between the CTP, the regional transportation plan and other plans developed by cities, counties, districts, California Tribal Governments, and state and federal agencies in responding to statewide and interregional transportation issues and needs;
- Providing a forum for: (1) participation and cooperation and (2) facilitation of partnerships that reconcile transportation issues which transcend regional boundaries; and
- Involving community-based organizations as part of the public, Federal, State and local agencies, California Tribal Governments, as well as local elected officials, early in the transportation planning process so as to include them in discussions and decisions on the social, economic, air quality and environmental issues related to transportation.

RTPs must include long-term horizons (at least 20 years) that reflect regional needs, identify regional transportation issues/problems, and develop and evaluate solutions that incorporate all modes of travel. RTPs must also recommend a comprehensive approach that provides direction for programming decisions to meet the identified regional transportation needs. RTPs must also be fully consistent with the requirements of the FAST Act and other federal regulations, including conformity with the 1990 Clean Air Act Amendments and consistency with the Federal Transportation Improvement Program (FTIP).

In addition, Government Code §§ 65050, 65400, 65584.01-04, 65587, 65588 and Public Resources Code §21155 were amended in January 2009 when SB 375 became law, requiring coordinated planning between regional land use and transportation plans to increase efficiency and reduce GHG emissions.

Project Goals and Objectives

The purpose of the 2020 RTP/SCS is to provide a clear vision of the regional transportation goals, objectives, and policies in Butte County. The RTP provides short-term and long-term transportation strategies for implementation, which includes realistic and fiscally constrained alternatives. The purpose of the SCS is to demonstrate the integration of land use, housing, and transportation for the purpose of reducing GHG emissions from passenger vehicles. Policies 1 through 14 are the same as the 2016 RTP/SCS and Policy 15 has been added as a new policy to the 2020 RTP/SCS. The following goals and objectives have been identified for the 2020 RTP/SCS:

Policy 1: Highways, Streets, and Roads

Goal: A safe and efficient regional road system that accommodates the demand for movement of people and goods.

Objectives

- 1.1 Strive to improve safety and operations of local and state highway system.
- 1.2 Identify and prioritize improvements to the regional road system.

Policy 2: Transit

Goal: Provide an efficient, effective, coordinated regional transit system that increases mobility for urban and rural populations, including those located in disadvantaged areas of the region.

Objectives

- 2.1 Meet all transit needs that are “reasonable to meet.”
- 2.2 Increase transit ridership that exceeds annual population growth rate for Butte County.
- 2.3 Promote citizen participation and education in transit planning and operations.
- 2.4 Maintain a reliable transit system.

Policy 3: Rail

Goal: A rail system that provides safe and reliable service for people and goods.

Objectives

- 3.1 Maintain and expand passenger service through Butte County.

Policy 4: Goods Movement

Goal: Provide a transportation system that enables safe movement of goods in and through Butte County.

Objectives

4.1 Provide an adequate regional road system for goods movement.

Policy 5: Aviation

Goal: A fully functional and integrated air service and airport system complementary to the countywide transportation system.

Objectives

5.1 Maintain daily commercial airline service to the Bay Area.

5.2 Work with local agencies to ensure compatible land uses around existing airports to reduce noise conflicts.

5.3 Ensure Airport Master Plans are updated and revised as necessary and required.

Policy 6: Non-Motorized Transportation

Goal: A regional transportation system for bicyclists and pedestrians.

Objectives

6.1 Work with local agencies to develop and construct bicycle and pedestrian facilities including access to transit.

6.2 Assist local jurisdictions in pursuing grant funding.

Policy 7: Intelligent Transportation Systems

Goal: Promote the use of ITS technologies in the planning and programming process.

Objectives

7.1 Maintain the North State ITS System Deployment Plan.

7.2 Apply Transportation Systems Management (TSM) strategies to projects where appropriate.

Policy 8: Energy

Goal: Reduce usage of nonrenewable energy resources for transportation purposes.

Objectives

8.1 Increase public transit and carpooling/vanpooling and bicycling/walking.

Policy 9: Air Quality

Goal: Achieve air quality standards set by the Environmental Protection Agency (EPA) and the State Air Resources Board.

Objectives

9.1. Coordinate transportation planning with air quality planning at the technical and policy level.

9.2 Implement transportation requirements established by Assembly Bill (AB) 32.

Policy 10: Land Use

Goal: Provide economical, long-term solutions to transportation problems by encouraging community designs which encourage walking, transit, and bicycling.

Objectives

- 10.1. Innovative land use and transportation planning.
- 10.2 Plan future roads to accommodate land uses at a regional level.
- 10.3 Roads that are pedestrian friendly encourage bicycle trips and the use of the mass transportation system.
- 10.4 Preserve productive farmland and land that provides habitat for rare, endangered or threatened species.
- 10.5 Ensure Goals and Policies are consistent at both the regional and local levels.

Policy 11: Transportation Financing

Goal: Develop and support financing strategies that provide for continuous implementation of the Regional Transportation Plan projects and strategies.

Objectives

- 11.1. Develop and adopt policies that will provide adequate funding resources for all transportation modes and strategies.
- 11.2 Work with Cities and County on development of a regional road network fee program.

Policy 12: Outreach and Coordination

Goal: Provide a forum for participation and cooperation in transportation planning and facilitate relationships for transportation issues that transcend jurisdictional boundaries.

Objectives

- 12.1. Assist jurisdictions in local transportation planning.
- 12.2 Promote consistency among all levels of local transportation planning.
- 12.3 Promote citizen participation and education in transportation planning.

Policy 13: Quality of Travel and Livability

Mobility Goal: The transportation system should provide for convenient travel options for people and goods and maximize its productivity. The system should reduce both the time it takes to travel as well as the total costs of travel.

Reliability Goal: The transportation system should be reliable so that travelers can expect relatively consistent travel times from day-to-day for the same trip by mode(s).

System Preservation and Safety Goal: The public’s investment in transportation should be protected by maintaining the transportation system. It is critical to preserve and ensure a safe regional transportation system.

Objectives

- 13.1 Assist in efforts which enhance mobility for the region. The system should provide for convenient travel options for people and goods and maximize its productivity. The system should reduce both the time it takes to travel as well as the total costs of travel.

- 13.2 Promote consistency among all levels of local transportation planning.
- 13.3 Assist in efforts which enhance reliability for the region. The system should be reliable so travelers can expect relatively consistent travel times from day-to-day for the same trip by mode(s).
- 13.4 Assist in preserving the transportation system and safety. The public's investment in transportation should be protected by maintaining the system to preserve it and ensure a safe system.

Policy 14: Sustainability

Goal: Incorporate Sustainable Community Strategies into the regional transportation planning process which works towards social equity, a healthy environment and a prosperous economy.

Objectives

- 14.1 Work towards a transportation system that is designed to provide an equitable level of transportation services for all populations.
- 14.2 Work towards a transportation system that leads to environmental sustainability and fosters efficient development patterns that optimizes travel, housing, and employment choices and encourages future growth away from rural areas and closer to existing and planned development.
- 14.3 Work towards a prosperous economy in making transportation decisions. The transportation system should play a significant role in raising the region's standard of living.

Policy 15: Emergency Preparedness

Goal: To support and collaborate on proactive emergency planning and projects. Projects that increase emergency readiness and preparedness including upgrading and maintaining roadways, public transit or facilities that support emergency situations.

Objectives

- 15.1 Work with Cities and County on development of a regional road trunk network that would best serve emergency purposes.
- 15.2 Actively pursue and assist local jurisdiction pursue grant funding that works towards enhancing emergency preparedness.

2.5 Project Characteristics

As described above, the 2020 RTP/SCS is an update to the current 2016 RTP/SCS that was adopted in December 2016. The 2020 RTP/SCS reflects changes in legislative requirements, local land use policies, and resource constraints that have occurred since adoption of the current 2016 RTP/SCS. The 2020 update to the 2016 RTP/SCS is focused on continued implementation of the 2016 RTP/SCS, with minor updates to ensure consistency with federal, State, and local planning requirements. The most notable changes to the 2016 RTP/SCS in this 2020 update include:

- California's adoption of safety-related performance measures and targets in July and August 2017 as required under the MAP-21 and FAST Act transportation bills. This also requires MPO targets to be adopted within 180 days after State targets and they must be incorporated into the RTP, RTIP, and FTIP;

- Draft guidelines from the Governor’s Office of Planning and Research for SB 743 (Steinberg, 2013);
- New funding for transportation projects through California’s recently approved Road Repair and Accountability Act of 2017 (SB 1) for the next ten years;
- Minor updates to transportation projects and land use development (specifically focused on growth that has taken place since the adoption of the current 2016 RTP/SCS); and
- Addition of components to the RTP/SCS to address freight and alternative fuel vehicles, including electric vehicles and autonomous vehicles.
- The Camp Fire occurred in Butte County in 2018 and devastated the community of Paradise resulting in 85 deaths and destroying 18,793 structures (CAL FIRE 2018a).

As described above, the 2020 RTP/SCS shows how BCAG will meet the transportation needs of the region for the period from 2020 to 2040, considering existing and projected future land use patterns as well as forecasted population and job growth. The 2020 RTP/SCS plans for and programs approximately \$68 million in revenues expected to be available to BCAG from all transportation funding sources over the course of the planning period. It identifies and prioritizes expenditures of anticipated funding for transportation projects that involve all transportation modes: highways, streets and roads, transit, rail, bicycle and pedestrian; aviation, as well as transportation demand management (TDM) and transportation system management (TSM).

The 2020 RTP/SCS transportation improvements project list is an update the 2016 RTP/SCS project list. As such it removes projects that have been completed since 2016, modifies some projects that continue to be on the list based on new information, and adds approximately 141 net new minor projects to the list.⁴ None of the modified or new projects on the 2020 RTP/SCS list would be substantially different in terms of geographical location, type of project, or the size of the project to those on the 2016 RTP/SCS list. A list of transportation improvement projects included in the proposed 2020 RTP/SCS is shown in Table 2-1. The right column in the table denotes if the projects were included in the 2016 RTP/SCS and if there has been a change to the project, denoted as a “No” in the column, that would require additional environmental review.

In addition, the land use scenario envisioned by the 2020 RTP/SCS is similar to that contained in the 2016 RTP/SCS. Briefly, this land use scenario, consistent with the 2016 RTP/SCS, concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the County while preserving the distinct identity of existing cities and towns.

2020 RTP/SCS Organization. BCAG adopted the previous 2016 RTP/SCS in December of 2016. This 2020 RTP/SCS reflects changes in legislative requirements, local land use policies, and resource constraints and is organized into three sections:

- **Policy Element.** Intends to identify legislative, planning, financial and institutional issues and requirements, as well as any areas of regional consensus. The Policy Element is meant to provide guidance to decision-makers of the implications, impacts, opportunities, and foreclosed options that will result from implementation of the RTP. California statute states that each RTP shall include a Policy Element that: describes the transportation issues in the region, identifies and qualifies regional needs expressed within both short and long-range planning horizons and maintains internal consistency with the Financial Element and fund estimates.

⁴ Net new count does not include unconstrained projects in the 2020 RTP/SCS

Table 2-1 Financially Constrained 2020 RTP/SCS Projects

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
BCAG	Butte Regional Transit - Capital and Operating Assistance	Federal Transit Administration Program Sections 5307 & 5311 programs to support transit services provided by Butte Regional Transit.	Transit	Yes
BCAG	Butte Regional Transit - Equipment Program	Butte Regional Transit - Replace, rehabilitate & purchase bus related facilities and equipment including ADA compliant bus stop construction and improvements, transit shelters, Paradise Transit Center, Electric Vehicles and associated infrastructure requirements. Funding program is the FTA Section 5339 Program.	Transit	Yes
BCAG & Work Training Center	Paratransit Assistance Program	Non-Infrastructure Projects in Butte County for the Help Central Mobility Management Program for Butte 211 call center and for Butte Regional Transit for supplemental ADA paratransit operations.	Transit	Yes
BCAG	Eaton/Bruce Rd Corridor Route	From Skyway to Esplanade. Add service along Eaton and Bruce Road. Frequency = 30-minute Peak and 60-minute Base	Transit	No
BCAG	Route 1 Transit Emphasis Corridor (Phase 1)	From Chico Mall to Lassen & Ceres Transfer Point. Increase frequency for Route 14/15. Frequency = 15-minute Peak and 30-minute Base	Transit	No
BCAG	Route 1 Transit Emphasis Corridor (Phase 2)	From Chico Mall to North Valley Plaza Transit Village. Operations improvements along corridor = transit signal priority, improved stop spacing, mobile fare payment, improved routing	Transit	No
BCAG	Warner Street Transit Priority Corridor	From W 2nd Street to W. 8th Avenue. Add new service along Warner St. Frequency = 15-minute Peak and 30-minute Base	Transit	No
BCAG	East Avenue Transit Priority Corridor	From Pillsbury Rd to Manzanita Avenue. Add new service or increase existing service along East Ave. Frequency = 15-minute Peak and 30-minute Base	Transit	No
BCAG	North Valley Plaza Transit Center Improvements	Improve and realign stops at North Valley Plaza to include new shelters, bike parking, and pedestrian improvements	Transit	No
BCAG	Oroville Park & Ride Improvements	3rd Street. Increase parking capacity at existing facility	Transit	No
BCAG	Paradise Transit Center	At Black Olive Drive New transit center with park & ride	Transit	No
BCAG	Gridley Park & Ride	At Butte County Fairgrounds New park & ride with pedestrian and bike facilities	Transit	No
BCAG	Chico (Fir St) Park & Ride Improvements	Fir Street Park and Ride. Add bus stops along 8th St (east bound) and 9th St (west bound)	Transit	No
BCAG	Implement Van Pool Service	Implement van pool services for commuter routes (Route 31 and 32)	Transit	No

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS ¹
BCAG	LCTOP - Electric Bus and Charger	Chico area. New zero emission electric bus and charger to operate on Route 14/15 in the Chico area	Transit	No
BCAG	LCTOP - Mobile Ticketing	New mobile ticketing application for B-Line	Transit	No
BCAG	FTA Low or No Emissions Program - Electric Bus and Charger	Chico area. New zero emission electric bus and charger to operate in Chico area	Transit	No
BCAG	FTA 5339 - Electric Bus and Charger (2)	Chico area. 2 New zero emission electric bus and charger to operate in Chico area	Transit	No
Biggs	Biggs Safe Routes to School Project - Second Street	Construct new pedestrian/bike facilities to close gaps. Extend the class 2 bike lanes and install ADA compliant curb ramps	Bicycle & Pedestrian	No
Biggs	Safe Routes to Schools Program	Construct new pedestrian/bike facilities along 2 nd and E Streets	Bicycle & Pedestrian	Yes
Butte County	Autrey Lane and Monte Vista Safe Routes to Schools Gap Closure Project	Curb, gutter, sidewalk, and crossing enhancements along Autrey Lane and Monte Vista Avenue. On Autrey Lane from Las Plumas to Monte Vista and along Monte Vista from Autrey Lane to Lincoln Boulevard.	Bicycle & Pedestrian	Yes
Butte County	Butte County Safe Routes Resource Center	Non-Infrastructure Project. Butte County Safe Routes Program	Bicycle & Pedestrian	No
Butte County	Monte Vista & Lower Wyandotte Class II Bike Project	Construct Class II bike facilities along Monte Vista Ave and Lincoln Blvd to Lower Wyandotte Rd in locations that do not have existing curb, gutter and sidewalks, along with Class II bike facilities along Lower Wyandotte Rd from Las Plumas Ave/Oro Bangor Hwy to Monte Vista Ave. From Lincoln Blvd along Monte Vista to Lower Wyandotte and up Lower Wyandotte from Monte Vista to Las Plumas.	Bicycle & Pedestrian	Yes
Butte County	Palermo/South Oroville SRTS Project, Phase 3	Design Curb, gutter, sidewalk, and crossing enhancements along Lincoln Blvd, Palermo Rd, and Baldwin Ave in locations that do not have existing curb, gutter, and sidewalks. From Hewitt Ave from Palermo Rd up to Baldwin Ave. Along Baldwin Ave from Hewitt to Lincoln Blvd. Down Lincoln Blvd from Baldwin Ave to Palermo Rd. Also on Palermo Rd from Lincoln to Palermo Middle School	Bicycle & Pedestrian	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Cherokee Road at Thermalito Canal, 0.4 mile northeast of Table Mountain Blvd. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0258	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Midway. At Western Canal, 0.2 mile north of Nelson Shippee Rd. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0040	Maintenance, Operations, and Safety	No

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Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Road. At West Branch Edgar Slough, 3.7 mile east of Glenn County Line. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0088	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Oro-Chico Hwy. At Butte Creek, 1.1 mile east of Midway. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0033	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Skyway. At Butte Creek, 0.5 mile southeast of Humbug Rd. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0009R	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Midway. At Union Pacific Rail Road, 1.2 miles north of Durham Dayton Hwy. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0255	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Nelson Rd. At Edgar Slough O/F, 0.2 mile east of 7 Mile Lane. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0403	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Nelson Rd. At Ash Creek, 1.5 mile west of the Midway. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0026	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Durham Pentz. At West Branch Clear Creek, 4.1 miles east of SR 99. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0248	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	East Gridley Rd. At Feather River, 1.0 mile east of Larkin Rd. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0022	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	El Monte Ave. At Dead Horse Slough, 0.1 mile north of SR 32. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0392	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Larkin Rd. At Sutter Butte Canal, 1.5 miles north of Oroville Gridley Rd. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0166	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Durham Dayton Hwy. At Hamlin Slough, 1.6 mile west of SR 99. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0423	Maintenance, Operations, and Safety	No

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Butte County	Local Highway Bridge Program (HBP Grouped)	Durham Dayton Hwy. At Butte Creek, 3.8 miles west of SR 99. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0004	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	County Bridge Preventative Maintenance Program (BPMP) Development. Staff time	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Road. At Angel Slough 0.1 mile east of River Rd. Scope is to replace bearing pads. Bridge No. 12C0241	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Table Mountain Blvd. At Feather River, 0.1-mile northwest of Montgomery St in Oroville. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0221	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Skyway. At Magalia Reservoir Spillway at the Magalia Dam. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0395	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Road over Tributary to Little Chico Creek west of River Road. Construct a new 2 lane bridge to replace the existing 2 lane low water crossings. Bridge No. 00L0092.	Maintenance, Operations, and Safety	Yes
Butte County	Local Highway Bridge Program (HBP Grouped)	Midway Rd over Butte Creek, 0.3 mile south of White Drive and Midway over Butte Creek Overflow, 3.9 mile north of Nelson Rd. Replace two existing structurally deficient 2 lane bridges with a new 2 lane bridge. Bridge No. 12C0052 & 12C0053.	Maintenance, Operations, and Safety	Yes
Butte County	Local Highway Bridge Program (HBP Grouped)	E Rio Bonito Rd. over Hamilton Slough 0.2 mile east of SR 99. Replace the existing functionally obsolete 2 lane bridge with a new 2 lane bridge. Bridge No. 12C0164.	Maintenance, Operations, and Safety	Yes
Butte County	Local Highway Bridge Program (HBP Grouped)	E Rio Bonito Rd over Sutter-Butte Canal 0.8 mile east of SR 99. Replace the existing 2 lane structurally deficient bridge with a new 2 lane bridge. Bridge No. 12C0165.	Maintenance, Operations, and Safety	Yes
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Rd. Over Little Chico Creek, 1 mile east of River Rd. Replace the existing 2 lane structurally deficient bridge with a new 2 lane bridge. Bridge No. 12C0242.	Maintenance, Operations, and Safety	Yes
Butte County	Central House Rd Over Wymann Ravine Bridge	Located at 0.2 miles east of SR 70. Scope is to replace the existing 1 lane structurally deficient bridge with a new 2 lane bridge. Bridge No: 12C011	Maintenance, Operations, and Safety	Yes

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Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Butte County	Local Highway Bridge Program (HBP Grouped)	Skyway Westbound at Butte Creek	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Cana Hwy at Pine Creek	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Afton Rd at Butte Creek	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Cana Pine Creek Rd at Pine Creek	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Mesa Rd at Durham Mutual Irrigation Canal	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Dunstone Dr at Lower Honcut Creek	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Lower Wyandotte at Wyman Ravine	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Rd at The Dips	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Keefer Rd at Keefer Slough	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Oro-Bangor Hwy at North Fork Honcut Creek	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Oro-Bangor Hwy at Branch Rocky Honcut Creek	Maintenance, Operations, and Safety	No

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Butte County	Local Highway Bridge Program (HBP Grouped)	Bradford Rd at Little Dry Creek	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	River Rd at Shady Oaks Slough	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	River Rd at Grassy Banks Slough	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Swedes Flat Rd at Rocky Honcut Creek	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Neal Rd at Nance Canyon	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Oro-Chico Hwy at Hamlin Slough. Bridge replacement.	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Oro-Chico Hwy at Nance Canyon. Bridge replacement.	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	East Gridley Rd. At Feather River, 1.0 mile east of Larkin Rd. Scope is to address cracks with a Methacrylate Deck treatment. Bridge No. 12C0022.	Maintenance, Operations, and Safety	No
Butte County	Local Highway Bridge Program (HBP Grouped)	Cana Hwy at Pine Creek	Maintenance, Operations, and Safety	No
Butte County	Highway Safety Improvement Program (HSIP Grouped)	On Cohasset Rd between Nicalog Rd and end of existing guardrail near Jack Rabbit Flat Rd. Work: Upgrade existing guardrails. H9-03-001	Maintenance, Operations, and Safety	No
Butte County	Cohasset MBGR Project - HSIP-5912(114)	Upgrade MBGR - Cohasset Rd between Nicalog Rd. and end of existing guardrail near Jack Rabbit Flat Rd.	Maintenance, Operations, and Safety	No

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Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Butte County	Foothill Blvd. Reconstruction	Road Rehabilitation	Maintenance, Operations, and Safety	No
Caltrans	SR 99 Bridge Rail Upgrade	SR 99 - In and near Chico, from north of Route 162 to north of Broyles Road. Bridge rail upgrade at six locations. (EA 0H330)	Maintenance, Operations, and Safety	No
Caltrans	SR 99 Bridge Scour Mitigation	SR 99 - Near Richvale, at Cottonwood Creek Bridge No. 12-0120, from 0.3 mile south to 0.5 mile north of Nelson Avenue. Replace and realign scour-critical bridge. (EA 0F290)	Maintenance, Operations, and Safety	No
Caltrans	SR 70 Permanent Restoration	SR 70 - Near Paradise, from 0.8 mile west to 0.2 mile east of Shady Rest Area. Restore and repair damaged roadway by raising the existing vertical alignment by approximately 5 feet and protecting the embankment against future flooding with Rock Slope Protection (RSP) or a retaining structure. (EA 3H540)	Maintenance, Operations, and Safety	No
Caltrans	SR 99 Transportation Management Systems	SR 99 - In and near Chico, from Southgate Avenue to Garner Lane. Install Traffic Management System (TMS) elements. (EA 1H860)	Maintenance, Operations, and Safety	No
Caltrans	SR 70 Roadside Enhancement	SR 70 - In Butte County, on Route 70 at approximately 7.0 miles south of Oroville; also in Colusa County on Route 20 at approximately 4.0 miles east of Colusa. Advance mitigation credit purchases for future SHOPP construction projects expected to impact sensitive habitats. (EA 2H140)	Maintenance, Operations, and Safety	No
Caltrans	SR 162 Safety Improvements	SR 162 - In and near Oroville, from Foothill Boulevard to the Gold Country Casino entrance. Construct two-way left-turn lane and widen shoulders. (EA 2H630)	Maintenance, Operations, and Safety	No
Caltrans	SR 32 Safety Improvements	SR 32 - In Chico, from West Sacramento Avenue (East) to West Sacramento Avenue (West). Construct two roundabouts. (EA 2H240)	Maintenance, Operations, and Safety	No
Caltrans	SR 70 Passing Lanes (Segment 1)	SR 70, from 0.1 mile south of Palermo Road, to just north of Ophir Road/Pacific Heights intersection. SHOPP Safety Only. Add center turn lane and 8-foot shoulders. (EA 3H71U)	Maintenance, Operations, and Safety	Yes
Caltrans	SR 70 Passing Lanes (Segment 1)	SR 70, from 0.1 mile south of Palermo Road, to just north of Ophir Road/Pacific Heights intersection. Widen from 2 lanes to 4 lanes. (EA 3H71U). Capacity increasing portion only.	Capacity Increasing	Yes

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS ¹
Caltrans	SR 70 Passing Lanes (Segment 2)	On SR 70, from Cox Lane to 0.1 mile south of Palermo Road. Widen from 2 lanes to 4 lanes. (EA 3F281 & 3H720)	Maintenance, Operations, and Safety	Yes
Caltrans	SR 70 Passing Lanes (Segment 2)	On SR 70, from Cox Lane to 0.1 mile south of Palermo Road. Widen from 2 lanes to 4 lanes. (EA 3F281 & 3H720)	Capacity Increasing	Yes
Caltrans	SR 70 Passing Lanes (Segment 3)	On Route 70 from 0.4 mile South or East of Gridley Road to 0.3 mile South of Butte/Yuba County line. Widen from 2 lanes to 4 lanes. (EA 3H930 & 3F282)	Maintenance, Operations, and Safety	Yes
Caltrans	SR 70 Passing Lanes (Segment 3)	On Route 70 from 0.4-mile South or East of Gridley Road to 0.3 mile South of Butte/Yuba County line. Widen from 2 lanes to 4 lanes. (EA 3H930 & 3F282)	Capacity Increasing	Yes
Caltrans	SR 32 ADA Curb Ramps	SR 32 - In Chico, from Walnut Street to Poplar Street. Upgrade Americans with Disabilities Act (ADA) facilities. (EA 4F800)	Bicycle & Pedestrian	No
Caltrans	SR 32 Safety Improvements	SR 32 - In Butte County on Route 32 from 0.3 mile east of Glenn/Butte County line to Muir Ave. Safety improvements. (EA 4H880)	Maintenance, Operations, and Safety	No
Caltrans	SR 32 Pavement Rehab	SR 32 - In and near Chico on Route 32 from Muir Ave to Route 99. Upgrade pavement, add new lighting, add new signal, and replace drainage systems. (EA 4H760)	Maintenance, Operations, and Safety	No
Caltrans	SR 99 Pavement Rehab	SR 99 - In Butte County in Gridley from West Liberty Road to Chico San Drive. Pavement rehab, upgrade curb ramps, drainage systems, and install fiber optics. (EA 1H140)	Maintenance, Operations, and Safety	No
Caltrans	SR 191 Permanent Restoration	SR 191 - In Butte County on Route 191 from 0.7 mile south of Paradise Dump Rd to 0.3 mile south of Old Clark Rd. Cut back existing slopes. (SHOPP ID 21899)	Maintenance, Operations, and Safety	No
Caltrans	SR 32 Permanent Restoration	SR 32 - In Butte County on Route 32, 0.9 mile east of Addison Rd. Soldier pile wall. (SHOPP ID 21796)	Maintenance, Operations, and Safety	No
Caltrans	SR 70 Permanent Restoration	SR 70 - In Butte County on Route 70 at various locations. Drainage systems. (SHOPP ID 21798)	Maintenance, Operations, and Safety	No
Caltrans	SR 70 Pavement Rehab	SR 70 - In Butte County on Route 70 from 0.6 mile east of Big Ben Rd to Plumas County line. Roadway preservation (CAPM) and drainage improvements. (SHOPP ID 20496)	Maintenance, Operations, and Safety	No

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Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Caltrans	SR 162 Pavement Rehab	SR 162 - In Butte County on Route 162 in Oroville from Feather River Bridge #12-34 to Foothill Blvd. Roadway preservation. (SHOPP ID 16387)	Maintenance, Operations, and Safety	No
Chico	Esplanade Corridor Safety and Accessibility Improvement Project	Project includes various non-motorized "complete streets" improvements along the Esplanade Corridor from W. 11th Avenue to Memorial Avenue. Improvements are both on Esplanade and Oleander.	Bicycle & Pedestrian	Yes
Chico	Little Chico Creek Pedestrian/Bicycle Bridge Connection at Community Park Project	Just south of Humboldt Rd, west of SR 99. Project entails new bridge connector over Little Chico Creek into the north side of 20th Street Park.	Bicycle & Pedestrian	No
Chico	SR 99 Bikeway Phase 4 Improvements	Business Lane along the east side of SR 99 corridor to the Skyway northbound on-ramp. Project is to construct a new Class 1 Bikeway Project.	Bicycle & Pedestrian	Yes
Chico	SR 99 Corridor Bikeway Phase 5 - 20th Street Crossing	SR 99 Corridor Bikeway Project Phase 5 completes the gap adjacent to SR 99 from Chico Mall across 20th Street to the south end of Business Lane. Scope of project is to develop a new bicycle and pedestrian crossing (bridge) over 20th Street in Chico.	Bicycle & Pedestrian	Yes
Chico	Bruce Rd Bridge Replacement Project	In Chico 0.5 miles south of Humboldt Rd on Bruce Road over Little Chico Creek. Project includes replacement of an existing 2-lane functionally obsolete bridge with a new 4-lane bridge including reconstruction of bridge approaches. New bridge incorporates a Class I bicycle facility	Capacity Increasing	No
Chico	Local Highway Bridge Program (HBP Grouped)	City of Chico Bridge Preventive Maintenance Program (BPMP) Development. Staff time	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Vallombrosa Ave. At Big Chico Creek between 1st St and Memorial Way. Scope of the work includes rock slope protection (RSP) and scour mitigation	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Park Ave. At Little Chico Creek, 0.1 mile north of 11th Street. Scope of the work includes RSP and scour mitigation	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Warner St. At Big Chico Creek between 1st St and Legion Ave. Scope of the work includes RSP and scour mitigation, joint seal	Maintenance, Operations, and Safety	No

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Chico	Local Highway Bridge Program (HBP Grouped)	Bruce Rd. At S Fork Dead Horse Slough, just north of SR 32. Scope of the work includes RSP and scour mitigation	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	E 5th Ave. At Lindo Channel, at E. Lindo Ave. Scope of the work includes RSP, scour mitigation and Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Cypress St. At Little Chico Creek between Humboldt Ave and 12th St. Scope of the work includes RSP, scour mitigation and Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Main St. At Big Chico Creek, 0.15 mile north of 2nd St. Scope of work includes joint seals	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Mangrove Ave. At Lindo Channel between 10th and Cohasset. Scope of work includes spall repair joint seal and Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Walnut St. At Little Chico Creek between Dayton Rd and 9th St. Scope of the work includes RSP, scour mitigation and Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Midway Rd. At Comanche Creek 0.1 mile south of Park Ave. Scope of work includes Methacrylate Deck treatment and spall repairs	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Longfellow Ave. At Lindo Channel between 1st and Manzanita. Scope of work includes Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Bruce Rd. At Little Chico Creek, 0.5 mile south of Humboldt Rd. Scope of work includes Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Skyway Av. At Little Chico-Butte CR DV CH, 0.4 mile northwest of Humbug Rd. Scope of work includes Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Forest Ave. At Little Chico Creek, just south of Humboldt Rd. Scope of work includes Methacrylate Deck treatment	Maintenance, Operations, and Safety	No

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Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Chico	Local Highway Bridge Program (HBP Grouped)	Manzanita Ave. At Lindo Channel between East Ave & Hooker Oak. Scope of work includes Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Mill St. At Little Chico Creek, 0.1 mile north of 12th St. Scope of work includes Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Manzanita Ave. At Big Chico Creek between Vallombrosa and Centennial. Scope of work includes Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Cohasset Rd. At Sycamore Creek Tributary, 0.7 mile north of Eaton Rd. Scope of repairs includes joint seals	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Broadway St. At Little Chico Creek just south of 9th St. Scope of work includes AC deck removal Methacrylate Deck treatment, wingwall and backwall repairs	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Pine St. At Little Chico Creek between Humboldt Ave and 12th St. Scope of work includes Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Local Highway Bridge Program (HBP Grouped)	Chestnut St. At Little Chico Creek at W 9th St. Scope of work includes Methacrylate Deck treatment	Maintenance, Operations, and Safety	No
Chico	Highway Safety Improvement Program (HSIP Grouped)	At the intersection at SR-99 NB On-Off Ramps/Eaton Road/Hicks Lane. Scope is to construct a 5-leg roundabout intersection with adequate bike and pedestrian access. H8-03-003	Maintenance, Operations, and Safety	No
Chico	Highway Safety Improvement Program (HSIP Grouped)	In Chico, on Walnut St between W 1st St and W 9th St. Scope: Walnut Street (SR32) from 1st to 4th (Buffered Bike lanes); continue from 5th through 9th Street (Buffered Bike lane and vehicle lane transition striping only); intersections of 1st, 3rd, and 5th (new signal hardware). HSIP7-03-001	Maintenance, Operations, and Safety	Yes*
Chico	Local Highway Bridge Program (HBP Grouped)	Ivy St. Over Little Chico Creek between 9th & 11th Streets. Rehabilitate and widen the existing 2 lane bridge to a full width 2 lanes with shoulders. Bridge No. 12C0279	Maintenance, Operations, and Safety	No

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS ¹
Chico	Local Highway Bridge Program (HBP Grouped)	Pomona Rd. Over Little Chico Creek, 0.4 mile south east of Miller Ave. Replace the existing 2 lane bridge, without adding lane capacity. Bridge No. 12C0328, Project #5037(024), 5037(036).	Maintenance, Operations, and Safety	Yes
Chico	Local Highway Bridge Program (HBP Grouped)	Salem Street. Over Little Chico Creek, 0.1 mile north of 10th St. Rehabilitate functionally obsolete 2 lane bridge. No Added Lane capacity. Bridge No. 12C0336.)	Maintenance, Operations, and Safety	Yes
Chico	Guyann Rd over Lindo Channel Bridge Project	Project is located just north of W Lindo Ave. Replace the existing 1 lane structurally deficient bridge with a new 2 lane bridge. Bridge No 12C0066.	Maintenance, Operations, and Safety	Yes
Chico	Bruce Rd. Widening	From Skyway to SR 32, widen Roadway (Bridge included as separate project).	Capacity Increasing	Yes
Chico	Commerce Court Connection	From Ivy Street to Park Ave connect existing Commerce Ct to Park Ave via Westfield Ln	Capacity Increasing	No
Chico	E. 20th Street Widening	From Forest Avenue to Bruce Road. Widen from 1 lane per direction to 2 lanes per direction with median.	Capacity Increasing	Yes
Chico	Eaton Rd Widening	From Hicks Ln to Cohasset Rd. Widen and extend to 4 lanes with median and new bridge at Sycamore Creek Tributary	Capacity Increasing	No
Chico	Eaton Rd Widening	From Cohasset Rd to Manzanita Ave. Widen to 4 lanes with median	Capacity Increasing	No
Chico	Esplanade Widening	Shasta Ave to Nord Highway. Widen to 4 lanes with median	Capacity Increasing	No
Chico	Mariposa Ave Connection	From Glenshire Ln to Eaton Rd, add new arterial connection. 1 lane per direction	Capacity Increasing	No
Chico	Notre Dame Boulevard Connection	Construct new bridge at Little Chico Creek	Capacity Increasing	Yes*
Chico	Midway Widening	From Hagan Lane to Park Ave. Widen road from 2 lanes to 4 lanes with a median.	Capacity Increasing	Yes
Chico	SR 99 Southgate Complex Feasibility Study	I/C and connector roads (Player, Fair Street, Midway Connection, Notre Dame, Speedway, West Southgate, East Southgate, Midway). Preliminary Engineering Only. Planning and Technical Studies to determine feasibility.	Capacity Increasing	No

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Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Chico	Skyway Capacity Improvements	From SR 99 to Bruce Rd. Corridor Capacity enhancements	Maintenance, Operations, and Safety	No
Chico	Bruce Road/Sierra Sunrise Terrace	New Traffic Signal	Maintenance, Operations, and Safety	No
Chico	E. 1st Ave/Mangrove Ave	Turn lane capacity expansion, storage length expansion, channelization improvements, pedestrian safety due to increased traffic volumes	Maintenance, Operations, and Safety	No
Chico	East 20th Street/MLK	Intersection capacity and queuing storage enhancements consistent with adjacent interchange improvements	Maintenance, Operations, and Safety	No
Chico	East Avenue/Cactus	New Traffic Signal	Maintenance, Operations, and Safety	No
Chico	East Avenue/Cohasset Road	Turn lane capacity expansion, storage length expansion, channelization improvements, pedestrian safety due to increased traffic volumes	Maintenance, Operations, and Safety	No
Chico	East Avenue/Esplanade	Turn lane capacity expansion, storage length expansion, channelization improvements, pedestrian safety due to increased traffic volumes	Maintenance, Operations, and Safety	No
Chico	Esplanade/DeGarmo Drive	New Traffic Signal	Maintenance, Operations, and Safety	No
Chico	Esplanade/Henshaw	New Traffic Signal	Maintenance, Operations, and Safety	No
Chico	Esplanade/Rio Lindo	New Traffic Signal	Maintenance, Operations, and Safety	No
Chico	Humboldt Rd/Notre Dame	New Traffic Signal	Maintenance, Operations, and Safety	No

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS ¹
Chico	Manzanita/Madrone	Roundabout (within existing ROW)	Maintenance, Operations, and Safety	No
Chico	Manzanita/Mariposa	Roundabout (within existing ROW)	Maintenance, Operations, and Safety	No
Chico	Park Avenue MLK	Turn lane capacity expansion, storage length expansion, channelization improvements, pedestrian safety due to increased traffic volumes	Maintenance, Operations, and Safety	No
Chico	Skyway/Carmichael Drive-Country Club	Turn lane capacity expansion, storage length expansion, channelization improvements, pedestrian safety due to increased traffic volumes	Maintenance, Operations, and Safety	No
Chico	Skyway/Potter Road	New Traffic Signal (Bike Trail)	Maintenance, Operations, and Safety	No
Chico	Eaton Rd/Floral Ave	2-Lane Roundabout	Maintenance, Operations, and Safety	No
Chico	Eaton Rd/Ceanothus Ave	1-Lane Roundabout	Maintenance, Operations, and Safety	No
Chico	Cohasset Rd Widening	Widen roadway to include left turn lanes and flatten curves between and including Airpark Blvd, and Two Oaks Dr	Maintenance, Operations, and Safety	No
Chico	Otterson/Hegan	New Traffic Signal	Maintenance, Operations, and Safety	No
Chico	Park / E Park Ave Operational Improvements	Operational flow improvements (traffic signals or roundabouts).	Maintenance, Operations, and Safety	No
Gridley	Central Gridley Pedestrian Connectivity and Equal Access Project	Install ADA curb ramps and detectable warning surfaces, close sidewalk gaps, and striping crosswalks along Sycamore, Magnolia, Indiana, and Vermont Streets in the central blocks of Gridley	Bicycle & Pedestrian	No

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Gridley	Gridley Bike & Pedestrian SR 99 Corridor Facility Project	In the City of Gridley, improvements entail installing ADA curb ramps and detectable warning surfaces, striping crosswalks, and Class I bike path along SR 99 from Township Rd to Archer Ave	Bicycle & Pedestrian	No
Oroville	SR 162 Pedestrian/Bicycle Disabled Mobility and Safety Improvements Project	Hwy 162 in Oroville, CA between Feather River Boulevard and Foothill Boulevard. The project includes a comprehensive set of active transportation infrastructure connectivity and safety improvements.	Bicycle & Pedestrian	Yes
Paradise	Oliver Curve Class I Phase I Project	Oliver Rd between Skyway and Valley View Dr (approximately 0.39 miles). Along Oliver Rd, construct a grade separated, Class I, bike-ped facility along the west side of Oliver Rd within the project limits. This project is a proactive safety effort to protect bicyclists and pedestrians along a heavily traveled corridor around a horizontal curve. In this location, the many daily bicyclists and pedestrians are forced to walk the edge line, causing vehicles to swerve into oncoming traffic	Bicycle & Pedestrian	No
Paradise	Paradise ATP Gateway Project	Neal Rd between Town Limits and Skyway (1.62 miles), Skyway between Neal Rd and Pearson Rd (0.9 miles). Along Neal Rd, construct a grade separated, Class I, bike-ped facility along the west side of Neal Rd within the project limits. This component will tie into Butte County Class II Bike Lanes which terminate at Town Limits, bringing both novice and experienced bicyclists and pedestrians to existing the 5-mile Class I facility at the Neal/Skyway intersection. Along Skyway, infill all missing sidewalks to connect to area resources and government facilities	Bicycle & Pedestrian	No
Paradise	Pentz Road Trailway Phase II Project	Pentz Rd between Pearson Rd and Bille Rd (1.63 miles), Pentz Rd between Wagstaff Rd and Skyway (1.56 miles). Scope of the project is to construct a grade separated, Class I, bike-ped facility along the west side of Pentz Rd within the project limits. This project will tie into funded improvements between Bille Rd and Wagstaff Road, scheduled for completion summer 2019	Bicycle & Pedestrian	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Bille Rd and Sawmill Rd. One of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Black Olive Dr & Foster Rd. Two of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS ¹
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Buschmann Rd and Foster Rd. Three of 16 stop-controlled intersections at various locations. Scope of Work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Elliott Rd and Almond St. Four of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Scottwood Rd and Buschmann Rd. Five of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Pentz Road and Skyway. Six of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Pentz Rd and Stearns Road. Seven of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Neal Rd and Circlewood Drive. Eight of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Neal Road and Grinding Rock Road. Nine of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Neal Road and Roe Road. Ten of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Neal Road and Starlight Court. Eleven of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Neal Rd and Wayland Rd. Twelve of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Pearson Rd and Middle Libby Rd. Thirteen of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Roe Rd and Foster Rd. Fourteen of 16 stop-controlled intersections at various locations. Scope of work is to systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Skyway and Rocky Ln. Fifteen of 16 stop-controlled intersections at various locations. Work: Systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Highway Safety Improvement Program (HSIP Grouped)	Twin Oaks Dr and Wagstaff Rd. Sixteen of 16 stop-controlled intersections at various locations. Work: Systemically improve minor street approaches with a combination of splitter islands, additional intersection warning/regulatory signs, improved pavement markings, and improved sight triangles. H9-03-012	Maintenance, Operations, and Safety	No
Paradise	Lower Pentz Pathway Project	Construct Class 1 paths along Pentz from Bille to Pearson	Bicycle & Pedestrian	No
Paradise	Upper Pentz Road Pathway Project	Construct Class 1 paths along Pentz from Wagstaff to Skyway	Bicycle & Pedestrian	No
Paradise	On-System Culvert Replacement	Replace damaged On-System HDPE culverts with RCP pipe culverts, including restoration of the roadway section above the pipe at various locations.	Maintenance, Operations, and Safety	No
Paradise	On-System Hardscape Replacement	Replace damaged hardscape, including concrete curb, gutter and sidewalk, lighting, planters, and other amenities at various locations.	Maintenance, Operations, and Safety	No

Implementing Agency	Title	Project Description	Project Type	Included in 2016 RTP/SCS¹
Paradise	On-System Road Rehabilitation	On-System roadway rehabilitation consisting of asphalt concrete overlays and full depth sections for areas with severe pavement damage.	Maintenance, Operations, and Safety	No
Paradise	On-System Sign Replacement	Replace damaged On-System roadway signs at various locations.	Maintenance, Operations, and Safety	No
Paradise	Neal Road Rehabilitation	On-System roadway rehabilitation along 1.63 miles of Neal Road from Wayland Road to Skyway consisting of 2-inch grind and 3-inch asphalt concrete (AC) overlay of the entire roadway section with digout areas of 3-inch AC and 4-inch aggregate base for sections with severe rutting and damage.	Maintenance, Operations, and Safety	No

¹ Project included in the 2016 RTP/SCS are not analyzed as part of the 2020 RTP/SCS SEIR analysis unless changes have been made to the project that may result in a new environmental impact. These projects are denoted with a *

Source: BCAG 2020 RTP/SCS project list

- **Action Element.** Would consist of short-term and long-term activities that address regional transportation issues and needs for all transportation modes. The Action Element would establish assumptions which form the definition of what is acceptable based upon adopted goals, policies and objectives and are part of the projection equation. Further, the Action Element would be separated into two parts: a discussion of regional issues, mandated transportation services, air quality, forecasting, regionally significant roads, alternatives, social impacts and RTP analysis; and a concluding section discussing each mode of transportation.
- **Financial Element.** Would identify the current and anticipated revenue sources and financing techniques available to fund the planned transportation investments described in the Action Element. The intent of the Financial Element would be to define realistic transportation financial constraints and opportunities with current available data. Discussion would center of three main topics: current funding revenues, transportation expenditures, and potential funding sources for the future. The purpose of the Financial Element is to: identify financial forecasts for finding through BCAG, estimate the costs and revenues to implement the projects identified in the Action Element, identify funding shortfalls, and list the candidate projects if funding becomes available.
- **Sustainable Communities Strategy.** Demonstrates the ability of BCAG to meet the GHG targets that CARB has set for the BCAG region from on-road light-duty trucks and passenger vehicles. The first section covers the planning efforts which provide the foundation for the update of the SCS. The second section describes the growth and land use forecasts which make up the SCS as well as some of the analysis and tools which were used to generate them. The third section discusses the regional transportation investments associated with the SCS and the final section describes the public outreach and local partnerships which help shape the development of the SCS.

All of the 2020 RTP/SCS elements include provisions with the potential to create physical changes to the environment.

2.6 Required Approvals

Approval of the RTP/SCS is at the discretion of the BCAG Board of Directors. Additional environmental review will be conducted by the responsible lead agency prior to implementation of individual projects contained within the 2020 RTP/SCS. Lead agencies may include the following:

- California Department of Transportation (Caltrans);
- California Transportation Commission (CTC);
- California Public Utilities Commission's Rail Crossings Engineering Section (RCES);
- Cities of Chico, Oroville, Biggs, Gridley and Paradise;
- County of Butte; and
- Butte Regional Transit and local transit providers and airport operators.

The relationship of this SEIR to future environmental review of individual transportation projects is further discussed in Section 1.0, *Introduction*.

2.7 Relationship with Other Plans and Programs

The 2020 RTP/SCS provides a sound basis for the allocation of state and federal transportation funds for transportation projects over the subsequent 20 years. The 2020 RTP/SCS follows guidelines established by the CTC to:

- Describe the transportation issues and needs facing the county;
- Identify goals and policies for how BCAG will meet those needs;
- Identify the amount of money that will be available for identified projects; and
- Include a list of prioritized transportation projects to serve the region's long-term needs, consistent with the funds allocated, while considering environmental impacts and planning for future land use.

The 2020 RTP/SCS has been evaluated for consistency with the goals, policies and objectives currently being implemented by municipal and county planning agencies within Butte County. The 2020 RTP/SCS would be implemented with other existing BCAG programs designed to improve transit access, bicycle and pedestrian facilities and reduce overall vehicle trips.

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3 Environmental Setting

This section provides a general overview of the environmental setting for the proposed 2020 RTP/SCS. A similar discussion of the Environmental Setting was discussed in the previously in the certified 2016 EIR and included here for reference. More detailed descriptions of the environmental setting for each environmental issue area evaluated in this SEIR can be found in Section 4, *Environmental Impact Analysis*.

3.1 Regional Setting

Butte County lies in north central California at the northeastern end of the Sacramento Valley, approximately 150 miles northeast of San Francisco and 70 miles north of Sacramento. State Routes 70 and 99, which extend in a north-south direction through the County, define the principal transportation corridors connecting the County to the region. State Routes 32 and 162 provide sub-regional connections to areas to the west of the County and to Interstate 5.

The County contains five incorporated cities: Chico, Oroville, Gridley, Biggs, and the Town of Paradise, and several unincorporated rural communities. The County is home to five Native American Tribes including the Mechoopda Maidu Tribe of the Chico Rancheria, Enterprise Rancheria, Berry Creek Rancheria, Mooretown Rancheria and the KonKow Valley Band of Maidu Indians. Approximately 70 tribal members live on the Chico Rancheria located approximately 3.5 miles south of Chico. The U.S. Forest Service is a major landowner in Butte County with holdings in Plumas National Forest (81,972 acres) and Lassen National Forest (49,240 acres). The U.S. Bureau of Land Management owns 18,960 acres, consisting of scattered foothill lands. Combined, these two federal agencies own and control 12.3 percent of the land area in Butte County.

Butte County covers an area of approximately 1,670 square miles and can be divided into three general topographical areas: a valley area, a foothill region east of the valley area, and a mountain region east of the foothills. These topographic areas comprise approximately 46 percent, 23 percent, and 31 percent, respectively, of the County's land. Butte County receives water via the Feather River and the Sacramento River. The County in general is drained by the Feather River, Butte Creek, and Chico Creek Watersheds. Part of the County's western border is formed by the Sacramento River.

Butte County has rich fertile valley soil, rolling hills, volcanic peaks and mesas and canyons carved by streams and rivers and is a diverse 1,068,000 acres. Its highest point is Humboldt Peak at 7,870 feet, while the lowest point is about 90 feet above sea level. Large portions of this rural area are preserved unaltered in the nearly 60,000 acres of parkland and wildlife preserves within the county. The valley remains a vital wintering site for 60 percent of the waterfowl that migrate through the Pacific Flyway. Ducks, geese, swans and other birds are present from November through March. From mid-February to mid-March, Butte County's countryside of almond, prune, kiwi, pear and apple orchards blossom, followed by a wildflower bloom that occurs throughout the area from March to June (Butte County Hazard Mitigation Plan 2019).

3.2 Regional Transportation System

Butte County's transportation network is served by highway, rail, aviation, public transportation, and facilities that support bicycle and pedestrian circulation modes. The safe and efficient transport of people and goods within the County is of crucial importance to the well-being of residents and the economic viability of the County; and thus, is the primary focus of the 2020 RTP/SCS.

Butte County has six state highways that serve as regional highways, State Route (SR) 99, 70, 32, 149, 162, and 191. The highway system in the County also includes federal and state interchanges, County and City-maintained arterial and collector roadways, and local streets within each of the five incorporated cities and town and the unincorporated area.

The Butte County region transit service is primarily provided by Butte Regional Transit (B-Line). B-Line provides both fixed route and paratransit services to Chico, Oroville, Paradise, Gridley, Biggs, and the unincorporated County. B-Line operates three routes for inter-city transportation between Chico, Paradise, Oroville and the Gridley-Biggs area. One line runs between Paradise and Chico, a second between Oroville and Chico, and a third between Paradise, Oroville, and Gridley-Biggs. Overall, the B-Line system utilizes nine 40 foot and four 30-foot passenger buses that run on compressed natural gas, in addition to eleven 40 foot and twelve 35-foot passenger diesel vehicles. All buses are equipped with wheelchair lifts. Transit Route 40/41 provides 13 round trips daily connecting Chico and Paradise; Route 20 provides 12 round trips daily connecting Chico and Oroville; and Route 30/31 provides three round trips daily connecting Paradise, Oroville, Gridley, and Biggs. Extended service is provided to Paradise Pines and Magalia. Transit service is operated between 5:50 a.m. and 9:30 p.m. Monday through Friday, with weekend service between 7:50 a.m. and 9:00 p.m. (BCAG B-Line Schedules & System Maps 2019).

B-Line operates four routes in Oroville serving the City of Oroville, the County Administrative Complex, and the downtown transit center. While service is primarily within the Oroville City limits, a portion of Thermalito, Kelly Ridge, and South Oroville are also served. Operating hours are from 6:15 a.m. to 7:30 p.m. Monday through Friday, except for major holidays.

Neighboring Glenn County (Glenn Ride) provides seven trips per day between Willows and Chico on weekdays and three trips per day on Saturdays. There is no service on Sundays.

Railroad operations through Butte County consist of two north/south lines of the Union Pacific railroad which run through the County. The western leg of the railroad runs through the cities of Gridley, Biggs, and Chico parallel to the west side of SR 99 and is referred to as the "Valley Line." The eastern leg of the railroad runs generally parallel to the east and west sides of the Feather River, through the City of Oroville before heading through the Feather River Canyon (Butte County General Plan 2012).

The lines are used primarily for the movement of freight. In addition, the Amtrak Coast Starlight passenger train operates twice per day on the west line. The Coast Starlight service provides passenger train runs between Seattle and Los Angeles and stops in Chico at 1:47 am (northbound) and 3:50 a.m. (southbound) daily.

There are two publicly owned public-use airports, Chico Municipal Airport and Oroville Municipal Airport; two privately owned public-use airports, Paradise Skypark Airport and Ranchoero Airport; three privately owned special-use airports, Butte Creek Hog Ranch Airport, Jones Airport, and Richvale Airport; one publicly owned seaplane landing site on Lake Oroville; two privately owned private-use heliports at Enloe Hospital and Oroville Hospital; and one publicly owned private-use

airport for the Butte County Sheriff's Department. In addition, the County contains several agricultural and private-use airports. These varieties of aviation facilities are located throughout Butte County (Butte County General Plan 2012).

3.3 Cumulative Projects Setting

3.3.1 CEQA Requirements

According to the *CEQA Guidelines* Section 15130(a)(1), "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the environmental impact report (EIR) together with other projects causing related impacts." In addition, an EIR must discuss cumulative impacts if the incremental effect of a project, combined with the effects of other projects, is "cumulatively considerable" (Section 15130[a]). Such incremental effects are to be "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (Section 15164[b][1]). Together, these projects comprise the cumulative scenario which forms the basis of the cumulative impact analysis. A cumulative impact analysis should highlight past actions that are closely related (either in time or location) to the project being considered, catalogue past projects, and discuss how past projects have harmed the environment, and discuss past actions, even if they were undertaken by another agency or another person.

Both the severity of impacts and the likelihood of their occurrence are to be reflected in the discussion, "but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion of cumulative impacts shall be guided by standards of practicality and reasonableness and shall focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact" (Section 15130[b]). However, the analysis must be sufficient in detail to be useful to decision makers in deciding whether, or how, to alter the program to lessen cumulative impacts.

Section 15130 of the *CEQA Guidelines* prescribes two methods for analyzing cumulative impacts: (1) use of a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts; or (2) use of a summary of projections contained in an adopted general plan or related planning document. As described in Section 1.5, *Baseline and Approach for Impact Analysis*, this document is a Program SEIR that analyzes the effects of buildout of the 2020 RTP/SCS. The proposed 2020 RTP/SCS considers the past, present, and future projects described in method 1 above and proposed transportation projects designed to meet the 2020 RTP/SCS goals and current and projected future transportation infrastructure needs of the County. The project also constitutes the cumulative scenario described in method 2 as it evaluates growth and development throughout the Butte County region (including incorporated and unincorporated communities) through the year 2045. Therefore, the cumulative effects of the 2020 RTP/SCS from future transportation system improvements and land use projects in the region are included in the analysis of the proposed 2020 RTP/SCS impacts. The analysis of project impacts contained in this SEIR will form the basis for the cumulative analysis contained in any subsequent environmental documentation for specific projects proposed under the 2020 RTP/SCS.

3.3.2 Growth Projections in the Region

The RTP/SCS covers a 20-year period from 2020 to 2040 and is an update of the 2016 RTP/SCS. BCAG does not propose any land use changes in the 2020 RTP/SCS, but rather the land use patterns envisioned by the 2020 RTP/SCS are based on the General Plan land use designations of the local agencies (the incorporated cities and the county). The forecasted allocations in the RTP are consistent with growth assumptions (e.g., location, density, and intensity of use) utilized in existing general plans or other local adopted plans, however, it does not utilize all available capacity in those plans.

In comparison to the regional forecasts prepared by BCAG in 2014 for the 2016 RTP/SCS, the 2018 forecasts present a smaller growth trend through 2040. Between the years 2018 and 2030, the forecasts show a compound annual growth rate (CAGR) of 0.68 percent for the medium scenario. However, unlike the 2014 forecasts, the 2018 forecasts capture the decrease in population associated with the 2018 Camp Fire. Between the years 2030 and 2040, the forecasts show a CAGR of 0.35 percent for the medium scenario. As previously observed in BCAG's 2014 growth forecast, Chico and unincorporated portions of the county are projected to absorb the greatest percentage of the projected regional growth. The Cities of Biggs and Gridley are forecasted to, at a minimum, increase population by 33 percent by the year 2040 and the City of Oroville is projected to see between 23 percent and 29 percent increases between 2018 and 2040. The greatest amount of growth would continue to be occurring in the Chico area with a forecasted range of 11,038 to 21,121 new housing units by the year 2040. The 2018 jobs to housing unit ratio was 0.83, an increase from 0.76 in 2014. The rebound is projected to continue with a jobs-to-housing unit ratio of 0.96 in 2020, falling to 0.80 by horizon year of 2040 (BCAG 2019).

The transportation projects identified in the 2020 RTP/SCS (as listed in Table 2-1 of this SEIR), provide the framework for growth within the region and the cumulative impact analysis approach discussed above.

4 Environmental Impact Analysis

This section discusses the possible environmental effects of the proposed project for the specific issue areas that were identified as having the potential to experience significant impacts. As a supplemental EIR, this report analyzes the same potentially significant impact areas as the certified EIR (2016) issued by BCAG for the 2016 RTP/SCS. A “significant effect” is defined by the *CEQA Guidelines* Section 15382 as:

a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant.

The following issue areas were identified as having potentially significant impacts in the 2016 RTP/SCS and are evaluated in this section:

- | | |
|-------------------------|-----------------------------------|
| 1. Agriculture | 5. Greenhouse Gas Emissions |
| 2. Air Quality | 6. Noise |
| 3. Biological Resources | 7. Population and Housing |
| 4. Cultural Resources | 8. Transportation and Circulation |

In addition to the issue areas listed above the following environmental issue areas not included in the 2016 RTP/SCS are evaluated in this SEIR: Energy, Tribal Cultural Resources, Wildfire. These environmental issue areas have been added to the CEQA checklist since completion of the RTP/SCS EIR in 2016. The following issue areas were determined in the 2016 RTP/SCS to have no impacts, less than significant impacts, or less than significant impacts with mitigation described in the 2016 EIR, and are evaluated in the SEIR in Section 4.12, *Other Environmental Issue Areas Analyzed*:

- | | | |
|-----------------------------------|-------------------------------|---------------------------------|
| ▪ Aesthetics | ▪ Hydrology and Water Quality | ▪ Public Services |
| ▪ Geology and Soils | ▪ Land Use and Planning | ▪ Recreation |
| ▪ Hazards and Hazardous Materials | ▪ Mineral Resources | ▪ Utilities and Service Systems |

The assessment of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the “significance thresholds,” which are those criteria adopted by BCAG and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

Significant and Unavoidable. An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per Section 15093 of the *CEQA Guidelines*.

Less than Significant with Mitigation Incorporated. An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the *CEQA Guidelines*.

Less than Significant. An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.

No Impact. The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other planned and pending developments in the area listed in Section 3.0, *Environmental Setting*.

The Executive Summary of this SEIR summarizes all impacts and mitigation measures that apply to the 2020 RTP/SCS.

4.1 Agriculture and Forestry

This section analyzes impacts related to agriculture and forestry in the Plan Area. Both direct impacts associated with the conversion of agricultural land to non-agricultural use in the Plan Area and potential indirect impacts to adjacent agricultural operations are discussed. This section also focuses on project impacts to forestry resources, including the conversion of forestland to non-forest use.

4.1.1 Setting

a. Regional Setting

Butte County can be divided into three geographical regions: the valley, the foothills east of the valley, and a mountain region east of the foothills. The most intensive agriculture is located in the valley region, which has rich alluvial soils. The foothill region consists primarily of grazing lands, with limited crop production. Finally, the mountain region is largely made up of timber lands consisting of timber production and recreation.

According to the 2018 Butte County Crop and Livestock Report, total plant crop acreage in 2018 was 367,091 acres. This farmland consists of 253,644 acres of field crops, 107,299 acres of fruit and nut crops, 5,533 acres of seed crops, and 615 acres of vegetable crops (Butte County Agricultural Commissioner 2019).

Estimated gross value of agricultural production in Butte County for 2018 totaled \$632 million, which represented a decrease of approximately \$65 million from the 2017 gross value of \$697 million. The total gross value of agriculture during 2018 was 10 percent less than the county 10-year average of \$702 million. Table 4.1-1 lists the top agricultural commodities in Butte County for 2018.

Table 4.1-1 2018 Butte County Crop Values

Crop	2018 Value
Rice	\$161,253,000
Almonds	\$155,437,832
Walnuts	\$154,558,362
Prunes	\$31,489,848
Nursery Stock	\$18,806,821
Harvested Timber	\$15,911,852
Cattle and Calves	\$11,268,562
Peaches	\$9,870,000
Rice Seed	\$9,838,040
Apiary, Pollination	\$8,541,474
Fruit & Nut, Misc.	\$5,546,772
Olive, Oil	\$3,585,653
Almond Hulls	\$3,140,000
Pistachios	\$3,120,000
Field Crops, Misc.	\$3,012,240
Apiary, Other Products	\$2,798,445
Citrus	\$2,670,000
Kiwifruit	\$2,079,168
Pasture, Irrigated	\$1,800,000
Vegetables	\$1,681,283
Pasture, Other	\$1,450,000
Milk, Market & Manufacturing	\$1,196,710

Source: 2018 Butte County Crop and Livestock Report

Regional Conversion of Farmland

Conversion of farmland is the loss of farmland due to development or land use changes that do not support agricultural production. The California Department of Conservation (DOC) has developed a classification system to categorize the quality of agricultural land resources and has implemented a Farmland Mapping and Monitoring Program (FMMP). As part of the FMMP, maps are updated biennially to provide land use conversion information for decision-makers to use when planning for the present and future of California’s agricultural land resources.

Through the FMMP’s most recent report, the DOC identified that Prime Farmland accounted for approximately 12 percent of the County in 2016. Additionally, Farmland of Statewide Importance accounted for approximately 2 percent, Unique Farmland accounted for another 2 percent, and Grazing Land accounted for roughly 37 percent of the County (DOC 2016). All together important farmlands and grazing land accounted for 637,603, or approximately 59 percent, of Butte County in

2016. The types and acreages of agricultural land uses as well as the changes in acreage between 2014 and 2016 are shown in Table 4.1-2.

Table 4.1-2 Butte County Farmlands Summary and Change by Land Use Category

Land Use Category	Total Acreage Inventoried		2014-2016 Acreage Changes			
	2014	2016	Acres Lost	Acres Gained	Total Change	Net Change
Prime Farmland	192,291	129,561	760	1,030	1,790	270
Farmland of Statewide Importance	21,575	21,598	511	534	1,045	23
Unique Farmland	22,430	23,279	72	921	993	849
Farmland of Local Importance	0	0	0	0	0	0
Important Farmland Subtotal	236,296	237,438	1,343	2,485	3,828	1,142
Grazing Land	401,752	400,165	3,197	1,610	4,807	-1,587
Agricultural Land Subtotal	638,048	637,603	4,540	4,095	8,635	-445
Urban and Built-up Land	46,329	46,647	33	351	384	318
Other Land	366,014	365,964	1,523	1,473	2,996	-50
Water Area	22,873	23,050	99	276	375	177
Total Area Inventoried	1,073,264	1,073,264	6,195	6,195	12,390	0

Source: California Department of Conservation, Butte County 2014-2016 Land Use Conversion

Important Farmlands

The U.S. Soil Conservation Service Important Farmlands Inventory (IFI) system is used to inventory lands with agricultural value. This system divides farmland into classes based on productive capability of the land (rather than the mere presence of ideal soil conditions). The important farmlands map identifies five agriculture-related categories including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. A description of each of these categories is provided below.

- **Prime Farmland.** Prime Farmland is land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for the production of irrigated agricultural production at some time during the four years prior to the mapping date.
- **Farmland of Statewide Importance.** Farmland of Statewide Importance is land similar to Prime Farmland, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been used for the production of irrigated agricultural production at some time during the four years prior to the mapping date.

- **Unique Farmland.** Unique Farmland is land of lesser quality soils used for the production of the State's leading agricultural crops (i.e., crops of high economic value, such as oranges, olives, avocados, rice, grapes, and cut flowers). This land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones of California. The land must have been cropped at some time during the four years prior to the mapping date.
- **Farmland of Local Importance.** Farmland of Local Importance to the local agricultural economy, as determined by each County's Board of Supervisors and a local advisory committee.
- **Grazing Land.** Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for this category is 40 acres.

Also shown on the survey are urban and built-up lands, other land and water. A description of each of these categories is included below:

- **Urban and Built-Up Land.** Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- **Other Land.** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
- **Water.** Water is considered perennial water bodies with an extent of at least 40 acres.

Williamson Act Contracts

The California Land Conservation Act of 1965, also known as the Williamson Act, enables local governments to enter into contracts with land owners for the purpose of restricting specific parcels of land to agricultural or open space use. In return, landowners receive a lower property tax rate based on agricultural production value rather than full market value. Williamson Act contracts may be non-renewed by landowners at any time, initiating a 9-year waiting period before the contract expires. Landowner's may alternatively initiate an Immediate Cancellation, which does not require the 9-year waiting period but requires meeting strict findings and the payment of penalties as set forth under the Williamson Act. Since 1967, the Williamson Act has been Butte County's primary tool for preserving agricultural land from development. The Butte County Board of Supervisors has codified regulations for administration of the County's Williamson Act program. As of 2015, 217,020 acres of land within Butte County are under a Williamson Act contract (DOC 2016). Many of these contracts are on lands in the western portion of the county, west of State Route (SR) 99 and SR 70.

b. Regulatory Setting

Federal Regulations

Farmland Protection Policy Act, subtitle I of Title XV, Section 1539-1549

The Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural

uses. It ensures that, to the extent practicable, federal programs are compatible with state and local units of government as well as private programs and policies to protect farmland. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of the FPPA, protected farmland includes Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance. Farmland subject to FPPA requirements does not have to be currently used for crop production. In fact, the land can be forest land, pastureland, cropland, or other land but does not include water bodies or land developed for urban land uses (i.e., residential, commercial, or industrial uses).

The Natural Resource Conservation Service (NRCS) administers the Farmland Protection Program. NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. The assessment is completed on form AD-1006, Farmland Conversion Impact Rating. The sponsoring agency completes the site assessment portion of the AD-1006, which assesses non-soil related criteria such as the potential for impact on the local agricultural economy if the land is converted to non-farm use and compatibility with existing agricultural use.

Farm Bill Conservation Programs

The Food, Conservation, and Energy Act of 2008 (the 2008 Farm Bill) designated funding for NRCS farmland conservation programs, including the Farm and Ranch Lands Protection Program, Wetland Reserve Program, Grassland Reserve Program, Conservation of Private Grazing Land Program, Conservation Reserve Program, Conservation Stewardship Program (CSP), Environmental Quality Incentives Program (EQIP), Agricultural Water Enhancement Program (AWEP), and Wildlife Habitat Incentives Program.

State Regulations

Williamson Act

Preservation of agricultural, recreational and open space lands through agricultural preserve contracts between the County and property owners is a technique encouraged by the State for implementing the general plan and preserving agricultural resources. Agricultural preserve contracts are executed through procedures enabled by the California Land Conservation Act of 1965, also known as the Williamson Act (per California Government Code Sections 51200-51207). A contract may be entered into for property where the property owner agrees to restrict uses on the property to agricultural, recreational and open space uses in return for reduced property taxes. The County Agricultural Preserve Rules of Procedure require certain minimum parcel sizes and land use restrictions applicable to agricultural preserve lands under their respective contracts. To be eligible for Williamson Act designation, a minimum 100 acres of non-prime land is typically required, and that land must be used to produce an agricultural commodity that is plant or animal and is produced in California for commercial purposes.

Farmland Security Zones

In 1998 the state legislature established the Farmland Security Zone (FSZ) program. FSZs are like Williamson Act contracts, in that the intention is to protect farmland from conversion. The main

difference, however, is that the FSZ must be designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The term of the contract is a minimum of 20 years. The property owners are offered an incentive of greater property tax reductions when compared to the Williamson Act contract tax incentives; the incentives were developed to encourage conservation of Prime Farmland through FSZs. The nonrenewal and cancellation procedures are similar to those for Williamson Act contracts.

Land Evaluation and Site Assessment Model (LESA)

The California Department of Conservation has developed the California LESA model to evaluate agricultural quality of specific sites to assist in determining the significance of agricultural lands. The LESA model considers six different factors. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100-point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds.

Local Regulations

General Plans

The most comprehensive land use planning for the Plan Area is provided by city and county general plans, which local governments are required by state law to prepare as a guide for future development. The general plan for Butte County and for each of the cities in the county contains goals and policies concerning topics that are mandated by state law or which the jurisdiction has chosen to include. Required topics include land use, circulation, housing, conservation, open space, noise, safety, environmental justice, and in certain cases air quality. The local agency general plans also include a wide variety of goals and policies aimed at protecting agricultural resources within the County. Such goals and policies include the implementation of a countywide Right to Farm Ordinance, preservation of agricultural land, enforcement of agricultural land conversions, establishing minimum parcel size and buffers, and establishing Williamson Act contracts.

Specific and Community Plans

A city or county may also provide land use planning by developing community or specific plans for smaller, more specific areas within their jurisdiction. These more localized plans provide for focused guidance for developing a specific area, with development standards tailored to the area, as well as systematic implementation of the general plan. Specific and community plans are required to be consistent with the city's or county's general plan.

Butte County Administrative Procedures and Uniform Rules for Implementing the California Land Conservation (Williamson) Act

As amended by AB 1265 on October 25, 2011, Butte County implements the California Land Conservation (Williamson) Act of 1965 to promote agricultural productivity and the preservation of agricultural land and open space lands. The County's implementation of the Williamson Act provides a common set of rules and procedures that apply to the standards and categories of property

eligibility, the permitted and compatible land uses and restriction on Williamson Act contract lands, procedures for creation and termination of Williamson Act contracts and procedures for compliance monitoring and enforcement.

Butte County Sustainable Agricultural Lands Conservation Strategy

On October 24, 2017, the Butte County Board of Supervisors approved the Sustainable Agricultural Lands Conservation (SALC) Strategy under Resolution 17-182. The SALC Strategy is a set of living tools and information intended to assist farmers, ranchers, and other members of the public in voluntarily conserving agricultural lands, and in implementing farming and ranching practices that help achieve the key sustainability goals of carbon sequestration, greenhouse gas emissions reductions, water conservation, and groundwater recharge. Sustainable farming and ranching practices not only benefit the environment but can benefit agricultural producers as well. There are financial incentives available to farmers who switch to sustainable practices. Under the SALC Strategy, Butte County has identified incentives and produced a library of information to connect producers to these incentive programs.

4.1.2 Impact Analysis

a. Methodology and Significance Thresholds

Pursuant to the *CEQA Guidelines*, potentially significant impacts to agriculture would result if the project would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use or a Williamson Act contract;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use;

Impacts associated with forest land and timberlands were determined to be less than significant in the Initial Study prepared for the 2016 RTP/SCS. This SEIR augments the previously certified EIR for the 2016 RTP/SCS and analyzes only the changes in the 2016 RTP/SCS or changes in circumstances under which the 2020 RTP/SCS projects would be implemented since certification of the previous 2016 EIR. Therefore, for issue areas where impacts would be similar to or less than the impact level identified in the previous 2016 EIR, no further analysis is warranted. Thus, the following thresholds will not be discussed further in this section and are instead included with other less than significant issue areas in Section 4.12, *Other Environmental Issue Areas Analyzed* of this SEIR document:

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use.

b. Project Impacts and Mitigation Measures

Threshold: Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Impact AG-1 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS UNDER THE 2020 RTP/SCS COULD RESULT IN THE ADDITIONAL CONVERSION OF PRIME FARMLAND, UNIQUE FARMLAND, OR FARMLAND OF STATEWIDE IMPORTANCE AND LANDS UNDER WILLIAMSON ACT CONTRACT TO NON-AGRICULTURAL USES, RELATIVE TO THE 2016 RTP/SCS. IMPACTS WOULD REMAIN SIGNIFICANT AND UNAVOIDABLE.

Due to the programmatic nature of the 2020 RTP/SCS, a precise, project-level analysis of the specific farmland conversions for each RTP project is not possible at this time. However as discussed in the 2016 RTP/SCS EIR, proposed transportation improvement projects, such as roadway expansions and widening, could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses. The 2020 RTP/SCS would add over 100 net new minor projects relative to the 2016 RTP/SCS. None of the modified or new projects on the 2020 RTP/SCS list would be substantially different from those on the 2016 RTP/SCS list in terms of geographical location, type of project, or size of project and would be constructed at various points within a span of 20 years. In addition, the land use scenario envisioned by the 2020 RTP/SCS is similar to that contained in the 2016 RTP/SCS and concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the County. Nevertheless, projects envisioned under the 2020 RTP/SCS may require new ground disturbance on previously undisturbed soils which have the potential to be agricultural lands classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, because the 2020 RTP/SCS includes additional projects, it would potentially result in greater impacts to agricultural and farmlands than previously analyzed in the 2016 RTP/SCS EIR.

Similar to the land use scenario included in the 2016 RTP/SCS, the 2020 RTP/SCS would place a greater emphasis of development in existing urban areas and limit expansion at community or city borders where urban development interfaces with agricultural lands. Therefore, impacts in the form of conversion of agricultural lands or Williamson Act lands would be minimal. However, impacts from individual projects would need to be addressed on a case-by-case bases. Nevertheless, because the actual magnitude of impacts from individual projects cannot be determined at this time, the overall impact to Prime Farmland and/or Williamson Act lands would be potentially significant.

Mitigation Measures

The following mitigation measures included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects identified in Table 4.1-3. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

AG-1(a) Alternative Alignment Consideration

When new roadway extensions or widenings are planned, the project sponsor shall assure that project-specific environmental reviews consider alternative alignments that reduce or avoid impacts to Prime Farmlands.

AG-1(b) Farmer Compensation

Rural roadway alignments shall follow property lines to the extent feasible, to minimize impacts to the agricultural production value of any specific property. Farmers shall be compensated for the loss of agricultural production at the margins of lost property, based on the amount of land deeded as road right-of-way, as a function of the total amount of production on the property.

AG-1(c) Important Farmland Conservation Easements

When new transportation facilities or land use projects implementing the 2020 RTP/SCS are planned in areas that contain Important Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance), the transportation project sponsor or local jurisdiction in which the project is located shall assure that project-specific environmental reviews mitigate impacts, when feasible, through requiring use of agricultural conservation easements on land of at least equal quality and size as compensation for the loss of agricultural land. Agricultural conservation easements would be implemented by directly purchasing easements or donating mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural conservation easements.

AG-1(d) Prime Farmland Conservation Easements

Prior to approval of 2020 RTP/SCS projects that may adversely impact Prime Farmland, the project sponsor shall, when the following mitigation measures are feasible, require that a farmland conservation easement, a farmland deed restriction, or other farmland conservation mechanism be granted in perpetuity to the municipality in which the project is proposed, or an authorized agent thereof. The easement shall provide conservation acreage at a minimum ratio of 1:1 for direct impacts. The conservation area shall be located within Butte County in reasonable proximity to the project area.

Significance After Mitigation

Although the above measures would reduce impacts to Prime Farmland, Unique Farmland, Farmland of Statewide Importance and lands under Williamson Act contract to the degree feasible, such impacts cannot be fully mitigated due to the potential conversion to non-agricultural use. As described in the 2016 RTP/SCS EIR, impacts from individual projects will need to be addressed on a case-by-case basis; however, because impacts to individual Prime Farmland, Unique Farmland, Farmland of Statewide Importance and lands under Williamson Act contract cannot be assumed to be less than significant, agricultural impacts would remain significant and unavoidable, consistent with the findings for the 2016 RTP/SCS EIR.

c. Specific 2020 RTP/SCS Projects That May Result in Impacts

All 2020 RTP/SCS projects that require the extension or widening of a roadway in rural areas adjacent to agricultural land may result in impacts discussed in Impact AG-1. Individual projects could create significant impacts related to agricultural resources but would not necessarily do so.

Additional specific analysis will need to be conducted as the individual projects are implemented in order to determine the actual magnitude of impact. Mitigation measures discussed above could apply to these specific projects for agricultural resources. RTP projects that require the addition of lanes or widening of lanes or a shoulder to an existing roadway or highway or that require construction of a new roadway, highway or bike lane and are adjacent to agricultural lands have the potential to impact agricultural resources including Prime Farmlands, Unique Farmland, Farmland of Statewide Importance and Williamson Act contract lands. All construction projects adjacent to agricultural lands have the potential to impact agricultural resources as described in Impact AG-1, beyond those discussed in the 2020 RTP/SCS EIR. Table 4.1-3 lists representative projects included in the 2020 RTP/SCS that have the potential to impact agricultural resources and were not previously evaluated in the 2016 RTP/SCS EIR.

Table 4.1-3 2020 RTP/SCS Projects That May Result in Agricultural Impacts

Implementing Agency	Title	Project Description	Project Type
Butte County	Monte Vista & Lower Wyandotte Class II Bike Project	Construct Class II bike facilities along Monte Vista Ave and Lincoln Blvd to Lower Wyandotte Rd in locations that do not have existing curb, gutter and sidewalks, along with Class II bike facilities along Lower Wyandotte Rd from Las Plumas Ave/Oro Bangor Hwy to Monte Vista Ave. From Lincoln Blvd along Monte Vista to Lower Wyandotte and up Lower Wyandotte from Monte Vista to Las Plumas.	Bicycle & Pedestrian
Caltrans	SR 70 Passing Lanes (Segment 2)	On SR 70, from Cox Lane to 0.1 mile south of Palermo Road. Widen from 2 lanes to 4 lanes. (EA 3F281 & 3H720)	Safety
Caltrans	SR 70 Passing Lanes (Segment 2)	On SR 70, from Cox Lane to 0.1 mile south of Palermo Road. Widen from 2 lanes to 4 lanes. (EA 3F281 & 3H720)	Capacity
Caltrans	SR 70 Passing Lanes (Segment 3)	On Route 70 from 0.4-mile South or East of Gridley Road to 0.3-mile South of Butte/Yuba County line. Widen from 2 lanes to 4 lanes. (EA 3H930 & 3F282)	Safety
Caltrans	SR 70 Passing Lanes (Segment 3)	On SR 70 from 0.4-mile South or East of Gridley Road to 0.3-mile South of Butte/Yuba County line. Widen from 2 lanes to 4 lanes. (EA 3H930 & 3F282)	Capacity

4.2 Air Quality

This section analyzes the additional impacts of the 2020 RTP/SCS, relative to the 2016 RTP/SCS, upon local and regional air quality. Both temporary impacts relating to construction activity and long-term impacts associated with population growth and associated growth in vehicle traffic are discussed.

4.2.1 Setting

a. Local Climate and Meteorology

Air quality is affected by the rate and location of pollutant emissions and by climatic conditions that influence the movement and dispersion of pollutants. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, along with local and regional topography, mediate the relationship between air pollutant emissions and air quality.

Located within the Sacramento Valley Air Basin (SVAB), Butte County has a Mediterranean climate, which is characterized by hot, dry summers and cool, wet winters. Summer conditions in the SVAB are typically characterized by high temperatures and low humidity, with temperatures averaging from approximately 90 degrees Fahrenheit during the day and 50 degrees Fahrenheit at night. During the summer months, the prevailing winds are typically from the south. Winter conditions are characterized by occasional rainstorms interspersed with stagnant and sometimes foggy weather. The daytime average temperature is in the low 50s, and the nighttime average temperature is in the upper 30s. During winter, winds predominate from the south, but north winds frequently occur. Rainfall occurs mainly from late October to early May, with an average of 17.2 inches per year, but this amount can vary significantly each year (Butte County 2010).

Dispersion of local pollutant emissions are predominantly affected by the prevailing wind patterns and inversions that often occur in the SVAB. Within the SVAB, two types of inversions can occur. During summer months, sinking air forms a “lid” over the region and confines pollution to a shallow layer near the ground, which can contribute to photochemical smog problems. During winter nights, air near the ground cools while the air aloft remains warm, which can cause localized air pollution “hot spots” near emission sources (Butte County 2010).

b. Air Pollutants of Primary Concern

The federal and state Clean Air Acts mandate the control and reduction of certain air pollutants. Under these laws, the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established ambient air quality standards for certain criteria air pollutants (CAP). Ambient air pollutant concentrations are affected by the rates and distributions of air pollutant emissions, as well as by the climate and topographic influences discussed above. The primary determinant of concentrations of non-reactive pollutants, such as carbon monoxide (CO) and suspended particulate matter, is proximity to major sources. Ambient CO levels usually closely follow the spatial and temporal distributions of vehicular traffic. A discussion of each criteria air pollutant is provided below.

Ozone

Ozone (O₃) is a colorless gas with a pungent odor. While ozone in the stratosphere (layer of atmosphere extending 7 to 31 miles above the earth) plays an important role in absorbing harmful

solar ultraviolet (UV) radiation before it reaches the planet's surface, ozone in the troposphere (layer of atmosphere extending from the surface to 7 miles above the surface) can be harmful to human health. Most ozone in the troposphere is formed as a result of the interaction of ultraviolet light with CO, reactive organic gases (ROG), or oxides of nitrogen (NO_x). ROG (the organic compound fraction relevant to ozone formation and is sufficiently equivalent for the purposes of this analysis to volatile organic compounds [VOC]) is composed of non-methane hydrocarbons (with some specific exceptions), and NO_x is made of different chemical combinations of nitrogen and oxygen, mainly nitric oxide (NO) and nitrogen dioxide (NO_2). Tropospheric ozone formation relies on the presence of ozone precursors and sunlight and does not form when low levels of ROG, NO_x , CO, and sunlight are present. Because these reactions occur on a regional rather than local scale, O_3 is considered a regional pollutant.

Carbon Monoxide

CO is an odorless, colorless gas and causes a number of health problems including fatigue, headache, confusion, and dizziness. The incomplete combustion of petroleum fuels in on-road vehicles and at power plants is a major cause of CO. CO is also produced during the winter from wood stoves and fireplaces. CO tends to dissipate rapidly into the atmosphere; consequently, violations of the state CO standards are generally associated with major roadway intersections during peak-hour traffic conditions.

Localized CO "hotspots" can occur at intersections with heavy peak-hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the National Ambient Air Quality Standard (NAAQS) of 35.0 parts per million (ppm) or the California Ambient Air Quality Standard (CAAQS) of 20.0 ppm.

Nitrogen Dioxide

NO_2 is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion of NO, but NO reacts rapidly to form NO_2 , creating the mixture of NO and NO_2 commonly referred to as NO_x . NO_2 is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children (National Research Council 2012). NO_2 absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of particulate matter, ozone, and acid rain.

Suspended Particulates

PM_{10} is small particulate matter measuring no more than 10 microns in diameter, while $\text{PM}_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. Suspended particulates are mostly dust particles, nitrates, and sulfates. They are a by-product of fuel combustion and wind erosion of soil and unpaved roads, and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates ($\text{PM}_{2.5}$) can be very different. The small particulates generally come from windblown dust and dust kicked up from mobile sources. The fine particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. Fine particulate matter is more likely to penetrate deep into the lungs and poses a serious health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. Particulate

matter that is inhaled can penetrate deep into the lungs and even enter the bloodstream. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

Lead

Lead (Pb) is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial sources. In the early 1970s, the USEPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA completed the ban prohibiting the use of leaded gasoline in highway vehicles in December 1995. As a result of the USEPA's regulatory efforts to remove lead from gasoline, atmospheric lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred after 1980 due to the removal of lead from gasoline sold for most highway vehicles. Lead emissions were further reduced substantially between 1999 and 2014, with reductions occurring in metals industrial processing, fuel combustion, and other sources (USEPA 2018). The largest remaining source of lead emissions is non-road vehicles and engines (i.e. aircraft, farm equipment, landscaping equipment, boats, ships, and snowmobiles). The highest level of lead in the air is generally found near lead smelters.

Toxic Air Contaminants

Public exposure to toxic air contaminants (TAC) is a significant environmental health issue in California. The California Health and Safety Code Section 39655(a) defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines. According to CARB, diesel engine emissions are believed to be responsible for about 70 percent of California's estimated known cancer risk attributable to toxic air contaminants and comprise about eight percent of outdoor PM_{2.5} (CARB 2019a, CARB 1998).

Sulfur Dioxide

Sulfur dioxide (SO₂) is a colorless, pungent, irritating gas formed primarily by the combustion of sulfur-containing fossil fuels. In humid atmospheres, SO₂ can form sulfur trioxide and sulfuric acid mist, with some of the latter eventually reacting to produce sulfate particulates, which can inhibit visibility. Fuel combustion is the major source of SO₂, while chemical plants, sulfur recovery plants, and metal processing are minor contributors. At sufficiently high concentrations, SO₂ irritates the upper respiratory tract. At lower concentrations, when in conjunction with particulates, SO₂ appears to do still greater harm by injuring lung tissues. SO₂, in combination with moisture and oxygen, can yellow leaves on plants, dissolve marble, and eat away iron and steel.

c. Current Air Quality

As mentioned above, CARB and the USEPA have established ambient air quality standards for major pollutants, including O₃, CO, NO₂, SO₂, Pb, PM₁₀, and PM_{2.5}. Standards have been set at levels intended to be protective of public health. California standards are typically more restrictive than federal standards.

Local air districts and CARB monitor ambient air quality to ensure that air quality standards are met and, if they are not met, are required to develop strategies to meet the standards. Air quality

monitoring stations measure pollutant ground-level concentrations (typically, 10 feet above ground level). Depending on whether the standards are met or exceeded, the local air basin is classified as in “attainment” or “non-attainment.” Some areas are unclassified, which means no monitoring data are available but are considered to be in attainment. Table 4.2-1 summarizes the CAAQS and the NAAQS for each of these pollutants as well as the attainment status of Butte County. As shown in Table 4.2-1, Butte County is in non-attainment for the state and federal standards for ozone, the state standard for PM_{2.5}, and the state standard for PM₁₀ (CARB 2018a).

Table 4.2-1 Ambient Air Quality Standards and Basin Attainment Status

Pollutant	Averaging Time	California Standards		Federal Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	1-Hour	0.09 ppm	N	–	–
	8-Hour	0.070 ppm	N	0.070 ppm	N
Carbon Monoxide	8-Hour	9.0 ppm	A	9.0 ppm	U/A
	1-Hour	20.0 ppm	A	35.0 ppm	U/A
Nitrogen Dioxide	Annual	0.030 ppm	A	0.053 ppm	U/A
	1-Hour	0.18 ppm	A	0.100 ppm	U/A
Sulfur Dioxide	24-Hour	0.04 ppm	A	–	–
	1-Hour	0.25 ppm	A	0.075 ppm	U/A
PM ₁₀	Annual	20 µg/m ³	A	--	–
	24-Hour	50 µg/m ³	N	150 µg/m ³	U
PM _{2.5}	Annual	12 µg/m ³	N	12 µg/m ³	U/A
	24-Hour	–	N	35 µg/m ³	U/A
Lead	30-Day Average	1.5 µg/m ³	A	–	–
	3-Month Average	–	–	0.15 µg/m ³	U/A

Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter; A = Attainment; N = Non-attainment; and U = Unclassified
 Source: CARB 2018a, BCAQMD 2018

Monitoring of ambient air pollutant concentrations is conducted by CARB and the Butte County Air Quality Management District (BCAQMD). CARB has four Butte County monitoring stations. Monitoring stations are located in Chico (East Avenue), Paradise (4405 Airport Road and Theater), and Gridley (Cowee Avenue). Table 4.2-2 summarizes the maximum concentration of each criteria pollutants measured in the County as a whole in 2016, 2017, and 2018.

Table 4.2-2 Ambient Air Quality Data in Butte County

Pollutant	2016	2017	2018
Ozone (ppm), Worst 1-Hour	0.088	0.091	0.108
Number of days of state exceedances (>0.09 ppm)	0	0	2
Ozone (ppm), 8-Hour Average	0.079	0.081	0.098
Number of days of state exceedances (>0.07 ppm)	16	17	22
Number of days of federal exceedances (>0.07 ppm)	14	17	20
Nitrogen Dioxide (ppb) – Worst Hour	32.4	37.5	51.9
Number of days of above state standard (>180 ppb)	0	0	0
Particulate Matter <10 microns, mg/m ³ , Worst 24 Hours ¹	88.9	242.0	478.7
Number of days above state standard (>50 mg/m ³)	31	38	66
Number of days above federal standard (>150 mg/m ³)	0	1	9
Particulate Matter <2.5 microns, mg/m ³ , Worst 24 Hours	45.9	60.5	417.0
Number of days above federal standard (>35 mg/m ³)	1	2	18

¹ This data is not available by County, but is available by Air Basin. The values presented here are for the entire SVAB.

Notes: ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter; data is for Butte County as a whole

Source: CARB 2018b

d. Regulatory Setting

Federal

The federal Clean Air Act (CAA) governs air quality in the United States. The USEPA is responsible for enforcing the federal CAA. The USEPA is also responsible for establishing the NAAQS, which are a requirement under the 1970 CAA and subsequent amendments. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The agency has jurisdiction over emission sources outside state waters (e.g. beyond the outer continental shelf) and establishes various emission standards, including for passenger cars; however, passenger cars sold in California must meet the stricter emission standards established by CARB.

Safer Affordable Fuel-Efficient Vehicles Rule

On September 27, 2019, the United States Environmental Protection Agency and the National Highway Safety Administration published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program.” The Part One Rule revokes California’s authority to set its own GHG emissions standards and sets zero-emission vehicle mandates in California. To account for the effects of the Part One Rule, CARB released off-model adjustment factors on November 20, 2019 to adjust criteria air pollutant emissions outputs from CARB’s Emission Factor model (EMFAC) (CARB 2019b). These off-model adjustment factors are to be applied by multiplying the emissions calculated for light- and medium-duty vehicles by the adjustment factor. With the incorporation of these adjustment factors, operational emissions generated by light-duty automobiles, light-duty trucks, and medium-duty trucks associated with project-related vehicle trips at the project buildout year (2040) would be approximately 0.5 percent greater for ROG, 1.5 percent greater for particulate matter, 0.5 percent greater for NO_x, and 1.5 percent greater for CO.

State

In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). Both the CAA and CCAA are administered by CARB at the state level and by the AQMDs at the regional and local levels. CARB is responsible for meeting the state requirements of the federal CAA, administering the CCAA, and establishing CAAQS. The CCAA, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective on March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

CARB established fifteen air basins and delegated local pollution control authority to Air Pollution Control Districts (APCD) or Air Quality Management Districts (AQMD). For Butte County, air pollution control authority is vested with the BCAQMD.

Local

BCAQMD is responsible for assuring that the federal and state ambient air quality standards are attained and maintained in the Butte County portion of the SVAB. The agency is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources, inspecting stationary sources, evaluating potential health risks from air pollutants, and adopting air pollution control measures.

e. Air Quality Management

The federal CAA Amendments of 1990 set a schedule for the attainment of the NAAQS. States are required to prepare a State Implementation Plan (SIP) to develop strategies to bring about attainment of the standards. In addition, the CCAA requires areas that exceed the CAAQS to plan for the eventual attainment of the state standards. Air districts in the northern SVAB (encompassing Shasta, Tehama, Glen, Colusa, Butte, and Feather River air districts), prepared and adopted a uniform Air Quality Attainment Plan (AQAP) for the purpose of achieving and maintaining healthful air quality throughout the northern portion of the SVAB. In December 2018, BCAQMD adopted the 2018 Triennial Air Quality Attainment Plan (2018 AQAP), which assesses the progress made in implementing the previous triennial update and proposes modifications to the strategies necessary to attain the CAAQS by the earliest practicable date (Sacramento Valley Air Quality Engineering and Enforcement Professionals [SVAQEEP] 2018). Table 4.2-3 presents a summary of the most current emissions inventory for the Northern SVAB taken from the 2018 AQAP.

Table 4.2-3 Ozone Emissions Inventory Projections for Northern SVAB (tons/day)

	NO _x		ROG	
	2015	2020	2015	2020
Stationary Sources	23.5	23.3	13.2	13.1
Area-wide Sources	5.4	5.4	30.0	30.4
Mobile Sources	52.9	38.0	18.6	14.9
On-Road Motor Vehicles	30.5	19.9	8.1	5.9
Other Mobile Sources	22.4	18.1	10.5	9.0
Total Emissions	81.8	66.7	61.9	58.4

Source: SVAQEEP 2018

BCAQMD maintains a PM_{2.5} Nonattainment Area Redesignation Request and Maintenance Plan (BCAQMD 2017). The purpose of this plan is to demonstrate that the planning area has met requirements established in the CAA, to request redesignation to attainment for the 24-hour PM_{2.5} NAAQS, and to demonstrate how the area will maintain the NAAQS for the next 10 years.

4.2.2 Impact Analysis

a. Significance Thresholds

This analysis follows the guidance and methodologies recommended in the air quality emissions thresholds established by the BCAQMD and the CEQA Appendix G thresholds. Pursuant to the *CEQA Guidelines*, air quality impacts related to the proposed project would be significant if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

The BCAQMD CEQA Air Quality Handbook (October 2014) establishes thresholds for criteria air pollutants. Table 4.2-4 summarizes the pollutant thresholds, which are separated by construction and operation-related activities.

Table 4.2-4 BCAQMD Thresholds

Pollutant	Construction	Operation
NO _x	137 lbs/day	25 lbs/day
ROG	137 lbs/day	25 lbs/day
PM ₁₀	80 lbs/day	80 lbs/day

NO_x = nitrous oxides; ROG = reactive organic gases; PM₁₀ = particulate matter less than 10 microns in diameter, lbs/day = pounds per day

Source: BCQAMD 2014

State and federal clean air laws require that emissions of pollutants for which federal or state ambient air quality standards are violated be reduced from current levels. In addition, as an SEIR, this analysis is intended to identify any additional impacts to air quality resulting from updates to the 2016 RTP/SCS that have not been previously addressed in the 2016 RTP/SCS EIR. Therefore, the following thresholds have been adopted by BCAG for the purpose of this analysis. The 2020 RTP/SCS would result in significant air quality impacts if it would:

- Increase short-term emissions relative to 2016 RTP/SCS short-term emissions
- Increase long-term emissions relative to 2040 No Project emissions and baseline (2018) emissions
- Increase emissions of diesel toxics (PM_{2.5} and NO_x) relative to 2040 No Project emissions and baseline emissions
- Increase re-entrained dust emissions relative to 2040 No Project emissions and baseline emissions
- Conflict with the 2018 AQAP Update

b. Methodology

Short-term Emissions

Emissions from construction activities represent temporary impacts that are typically short in duration, and depend on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant impacts to air quality. Construction-related emissions are speculative at the RTP level because such emissions are dependent on the characteristics of individual development projects. However, because construction of projects under the 2020 RTP/SCS would generate temporary criteria pollutant emissions, primarily due to the operation of construction equipment and truck trips, a qualitative analysis is provided below.

Long-term Emissions

For this SEIR, the methodology for determining the significance of air quality impacts is by comparing 2018 existing conditions to the 2020 RTP/SCS conditions in the year 2040. The analysis of air quality also includes a comparison between the expected future conditions with the proposed 2020 RTP/SCS and the expected future conditions in 2040 if no plan were adopted (No Project scenario). State and federal clean air laws require that emissions of pollutants for which federal or state ambient air quality standards are violated be reduced from current levels. Therefore, the project's long-term impacts to air quality are considered significant if the project would result in mobile source emissions that significantly exceed existing levels. For the 2020 RTP/SCS the pollutants of concern are ozone precursors (NO_x and ROG) and particulate matter (PM_{2.5} and PM₁₀), as these are the primary pollutants associated with vehicle transportation.

Projected air emissions from mobile sources were calculated using EMFAC 2017 model with data for vehicle miles traveled (VMT) from the RTP/SCS traffic analysis completed by Fehr and Peers (2020), which calculated the various scenarios using the County's Traffic Demand Model (as further described in Section 4.9, *Transportation and Circulation*). Vehicle trips, VMT, and VMT by speed class distributions were provided for the 2018 existing conditions and 2040 projections with and without the project. The VMT by speed bin data was then entered into the EMFAC2017 model for analysis. The EMFAC emissions factors are established by CARB and accommodate certain mobility assumptions (e.g., vehicle speed, delay times, average trip lengths, and total travel time). Projected

vehicle emissions for the year 2040 under the 2020 RTP/SCS were compared to 2018 existing conditions and with future conditions under the 2040 No Project scenario. If county-wide ROG, NO_x, PM_{2.5} or PM₁₀ emissions generated by the 2020 RTP/SCS would not exceed the 2018 baseline or the future year 2040 No Project scenario, impacts to long-term air quality will not be considered significant.

c. Project Impacts and Mitigation Measures

Implementation of the 2020 RTP/SCS could create both short-term and long-term impacts to air quality. Short-term air quality impacts would be generated during construction of the capital improvements listed in the 2020 RTP/SCS as well as future development facilitated by the 2020 RTP/SCS. Long-term emissions would be generated indirectly by the on-road vehicles that would utilize the capital improvements and proposed land uses.

Threshold: Would the project conflict with or obstruct implementation of the applicable air quality plan?
--

Impact AQ-1 THE 2020 RTP/SCS WOULD REDUCE EMISSIONS OF OZONE PRECURSORS CONSISTENT WITH THE GOALS OF THE 2018 TRIENNIAL AQAP. IT WOULD NOT CONFLICT WITH THE 2018 AQAP UPDATE. THERE WOULD BE NO NEW IMPACT RELATIVE TO THE 2016 RTP/SCS. IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.

Policies and projects facilitated by the 2020 RTP/SCS are projected to reduce emissions of ozone precursors below the 2018 baseline and 2040 No Project scenario, as shown in Table 4.2-5, consistent with the goals of the 2018 AQAP Update. The projected decrease in emissions of ozone precursors is due to proposed transportation improvements envisioned by the 2020 RTP/SCS, which, among other strategies, would improve alternative transportation options and reduce congestion. Reduced congestion would result in reduced regional criteria air pollutant emissions and TAC emissions from mobile sources. Therefore, the 2020 RTP/SCS would not introduce a new impact relative to the 2016 RTP/SCS. Impacts would remain less than significant.

Mitigation Measures

None required.

Threshold: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
--

Threshold: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?
--

Impact AQ-2 IMPLEMENTATION OF THE 2020 RTP/SCS WOULD RESULT IN AN OVERALL REDUCTION OF ON-ROAD VEHICLE EMISSIONS WHEN COMPARED TO BASELINE CONDITIONS AND THE 2040 NO PROJECT SCENARIO. IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.

As previously noted, Butte County is currently classified as being a non-attainment area for state and federal standards for ozone, the state standard for PM_{2.5}, and the state standard for PM₁₀. Therefore, an increase in ozone precursors (NO_x and ROGs), PM_{2.5}, or PM₁₀ would potentially contribute to, or exacerbate the County's nonattainment of ambient air quality standards. Table 4.2-5 summarizes projected on-road vehicle emissions for baseline (year 2018), 2040 Project,

and 2040 No Project conditions. As shown in Table 4.2-5, transportation improvements identified in the 2020 RTP/SCS would result in an overall reduction of on-road vehicle emissions when compared to baseline conditions and the 2040 No Project scenario. The projected reduction in air pollutant emissions is largely the result of currently adopted policies and regulations that would decrease mobile source emissions over time, such as the Advanced Clean Cars Program, which includes emission standards for passenger cars and other vehicles, as well as incentives for adoption of low-emission and zero-emission vehicles. Therefore, impacts related to criteria pollutants would remain less than significant.

Table 4.2-5 Regional Air Pollutant Emissions

Scenario	VMT	PM _{2.5} (tons/day)	PM ₁₀ (tons/day)	NO _x (tons/day)	ROG (tons/day)
2018 Baseline	4,705,417	0.181	0.358	4.88	2.17
2040 Project	5,332,327	0.139	0.329	1.75	0.618
2040 No Project	6,216,655	0.161	0.382	2.04	0.717

Notes: The on-road mobile source criteria pollutant emissions estimates for the 2020 RTP/SCS were calculated using CARB's EMFAC2017 emission inventory model. VMT data were extracted from Fehr and Peers who utilized the BCAG's Traffic Demand Model (as further described in Section 4.9, *Transportation and Circulation*) and include pass-through trips from vehicles travelling through Butte County that do not have an origin or destination within the county. PM10 and NOx emissions are presented above using winter values and ROG emissions are presented above using summer values to provide a conservative estimate based on the seasons in which individual criteria pollutant emissions are highest.

Source: See Appendix B for EMFAC2017 modeling results

Mitigation Measures

None required.

Impact AQ-3 THE TRANSPORTATION IMPROVEMENT PROJECTS ENVISIONED BY THE 2020 RTP/SCS MAY FACILITATE INCREASED EXPOSURE OF SENSITIVE RECEPTORS TO HAZARDOUS AIR POLLUTANTS THAT MAY CAUSE HEALTH RISKS AND ODORS THAT MAY BE A NUISANCE. HOWEVER, IMPLEMENTATION OF THE 2020 RTP/SCS WOULD NOT RESULT IN A REGIONAL INCREASE IN TOXIC AIR EMISSIONS WHEN COMPARED TO THE BASELINE OR 2040 NO PROJECT SCENARIOS AND WOULD HAVE SIMILAR LOCALIZED IMPACTS AS THOSE DESCRIBED IN THE 2016 RTP/SCS EIR. IMPACTS WOULD REMAIN SIGNIFICANT BUT MITIGABLE.

Diesel particulate matter (DPM) is classified as the primary airborne carcinogen in the state. CARB reports that DPM represents about 70 percent of the potential cancer risk from vehicle travel on a typical urban freeway. More than 90 percent of DPM is less than one micron in size and thus is a subset of PM_{2.5} (CARB 2020); thus, diesel PM_{2.5} emission levels can serve as a proxy of DPM emission levels. In addition, diesel vehicles are the primary contributor of mobile source NO_x emissions, which have both short-term and long-term health effects (Union of Concerned Scientists 2008; USEPA 2020). Table 4.2-6 summarizes projected diesel PM_{2.5} and diesel NO_x emissions for baseline (year 2018), 2040 Project, and 2040 No Project conditions. Regional diesel toxics emissions under the 2040 Project scenario would be below the No Project scenario and below baseline levels. Therefore, impacts related to diesel toxics exposure would remain less than significant with mitigation to prepare a health risk assessment for projects with sensitive receptors within 500 feet of sources of TACs or new sources of TACs.

Table 4.2-6 Diesel Toxics Emissions (tons/day)

Scenario	PM _{2.5} (tons/day)	NO _x (tons/day)	ROG (tons/day)
2018 Baseline	0.091	3.393	0.338
2040 Project	0.037	1.478	0.043
2040 No Project	0.043	1.714	0.049

Notes: The on-road mobile source criteria pollutant emissions estimates for the 2020 RTP-SCS were calculated using CARB's EMFAC2017 emission inventory model. VMT data were extracted from Fehr and Peers who utilized the BCAG's Traffic Demand Model (as further described in Section 4.9, Transportation and Circulation) and include pass-through trips from vehicles travelling through Butte County that do not have an origin or destination within the county. Emissions are presented above using the highest of the winter or summer emissions.

Source: See Appendix B for EMFAC2017 modeling results

The 2020 RTP/SCS would add over 100 net new minor projects relative to the 2016 RTP/SCS. None of the modified or new projects on the 2020 RTP/SCS list would be substantially different from those on the 2016 RTP/SCS list in terms of geographical location, type of project, or size of project. Therefore, the 2020 RTP/SCS would have similar impacts related to localized diesel toxics emissions as described in the 2016 RTP/SCS. Similarly, because projects would not be substantially different from those in the 2016 RTP/SCS and no new odor generating projects are included in the 2020 RTP/SCS, impacts related to odors would be similar to the 2016 RTP/SCS. With incorporation of mitigation measures included in the 2016 RTP/SCS, impacts would be less than significant.

Mitigation Measures

The following mitigation measures included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects near sensitive land uses. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

AQ-3¹

Consistent with the provisions contained in the CARB Air Quality and Land Use Handbook (June 2005), for the proposed building design for residential, school, and other sensitive use projects located within 500 feet of freeways, heavily travelled arterials, railways, and other sources of diesel particulate matter and other known carcinogens, the sponsor agency shall retain a qualified air quality consultant to prepare a health risk assessment in accordance with CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to stationary air quality pollutants prior to issuance of a demolition, grading, or building permit. The health risk assessment shall be submitted to the sponsor agency for review and approval. The sponsor agency shall implement any approved health risk assessment recommendations to a level that would not result in exposure of sensitive receptors to substantial pollutant concentrations. Such measures may include:

- Do not locate sensitive receptors near the entry and exit points of a distribution center.
- Do not locate sensitive receptors in the same building as a perchloroethylene dry cleaning facility.

- Maintain a 50 foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year).
- Install, operate, and maintain in good working order a central heating and ventilation system or other air take system in the building, or in each individual residential unit, that meets the efficiency standard of the minimum efficiency reporting value 13. The heating and ventilation system should include the following features: Installation of a high efficiency filter and/or carbon filter-to-filter particulates and other chemical matter from entering the building. Either high efficiency particulate absorption filters or American Society of Heating, Refrigeration, and Air-Conditioning Engineers 85% supply filters should be used.
- Retain a qualified heating and ventilation consultant or high efficiency particulate absorption rate during the design phase of the project to locate the heating and ventilation system based on exposure modeling from the mobile and/or stationary pollutant sources.
- Maintain positive pressure within the building.
- Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air.
- Achieve a performance standard of at least 4 air exchanges per hour of recirculation.
- Achieve a performance standard of 0.25 air exchanges per hour of in unfiltered infiltration if the building is not positively pressurized.

Significance After Mitigation

With the implementation of the above mitigation to prepare a health risk assessment for applicable projects, impacts related to localized toxic air contaminant emissions would remain be less than significant, consistent with the findings for the 2016 RTP/SCS EIR.

Threshold: Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-4 CONSTRUCTION OF TRANSPORTATION IMPROVEMENT PROJECTS AND THE LAND USE PATTERN ENVISIONED BY THE 2020 RTP/SCS WOULD GENERATE SHORT-TERM AIR POLLUTANT EMISSIONS. DUE TO THE INCLUSION OF A LARGER NUMBER OF PROJECTS, IMPLEMENTATION OF THE 2020 RTP/SCS WOULD POTENTIALLY RESULT IN HIGHER QUANTITIES OF SHORT-TERM AIR POLLUTANT EMISSIONS THAN IMPLEMENTATION OF THE 2016 RTP/SCS. HOWEVER, WITH MITIGATION, IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.

As discussed in the 2016 RTP/SCS EIR, implementation of the 2016 RTP/SCS would result in short-term emissions from construction of transportation projects and future development envisioned under the 2016 RTP/SCS. The 2020 RTP/SCS would add over 100 net new minor projects relative to the 2016 RTP/SCS. None of the modified or new projects on the 2020 RTP/SCS list would be substantially different from those on the 2016 RTP/SCS list in terms of geographical location, type of project, or size of project and would be constructed at various points within a span of 20 years. In addition, the land use scenario envisioned by the 2020 RTP/SCS is similar to that contained in the 2016 RTP/SCS and concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the County. Nevertheless, because the 2020 RTP/SCS includes more projects as compared to the 2016 RTP/SCS, implementation of projects under the 2020 RTP/SCS could result in a greater amount of short-term air pollutant emissions than under the 2016 RTP/SCS. However, with incorporation of the same mitigation measures to reduce construction emissions included in the 2016 RTP/SCS, impacts would remain less than significant.

Mitigation Measures

The following mitigation measures included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

AQ-1¹

BCAG shall and sponsor agencies can and should ensure that all feasible and appropriate mitigation measures set by BCAQMD are implemented. The measures shall be noted on all construction plans, and the lead agency shall perform periodic site inspections. BCAQMD rules and regulations on construction include, but are not limited to, the following:

- Mix backfill soil with water prior to moving;
- Prevent generation of dust plumes by applying water in sufficient quantity;
- Limit vehicular traffic and disturbances on soils where possible;
- Grade each project phase separately, timed to coincide with construction phase;
- Use tarps or other suitable enclosures on haul trucks;
- Maintain effective cover over materials;
- Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes;
- Restrict vehicular access to established unpaved travel paths and limit number and size of staging area entrances and exits;
- Add or remove material from the downwind portion of the storage pile;
- Pre-water soils prior to trenching (18 inches for deep trenching activities); and
- Haul waste material immediately off-site.

Significance After Mitigation

With the implementation of Mitigation Measures AQ-1 to implement BCAQMD construction emissions reduction measures, impacts related to short-term construction emissions would remain less than significant, consistent with the findings for the 2016 RTP/SCS EIR.

Impact AQ-5 RE-ENTRAINED DUST FROM TRANSPORTATION SOURCES HAS THE POTENTIAL TO INCREASE AIRBORNE PARTICULATE MATTER LEVELS IN THE PLAN AREA. THE 2020 RTP/SCS WOULD DECREASE VMT IN BUTTE COUNTY RELATIVE TO BOTH BASELINE AND 2040 NO PROJECT CONDITIONS, WHICH WOULD CONTRIBUTE TO LOWER LEVELS OF RE-ENTRAINED DUST FROM ROADWAY ACTIVITY. IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.

Re-entrained dust is generated by roadway activity (i.e., roadway dust kicked up by moving vehicles on paved and unpaved roadways). The synergistic effects of road dust (typically measured as PM₁₀) with ozone and the hazardous constituents of re-entrained road dust itself (carcinogens, irritants, pathogens) may affect human health by contributing to respiratory illnesses such as asthma and

¹ Note that the 2016 RTP/SCS EIR did not include a Mitigation Measure AQ-2. Mitigation Measures AQ-1 and AQ-3 would both continue to apply to the 2020 RTP/SCS as analyzed in this SEIR.

allergies. Although advances in motor vehicle emission control technology have decreased the pollutants emitted in vehicle tailpipe exhaust, as mentioned above, PM₁₀ is generated by roadway activity and thus, typically increases with VMT. In addition, PM₁₀ generation increases with higher vehicle speeds.

Re-entrained roadway dust as well as roadway construction dust emissions are included in the estimation of criteria pollutant emissions for PM₁₀ discussed in Impacts AQ-2 and AQ-4. As discussed, emissions levels for PM₁₀ criteria pollutants would be reduced from the 2018 baseline and 2040 No Project scenario with the implementation of the 2020 RTP/SCS. Although VMT increases in 2040 relative to the baseline, emissions would continue to decrease from 2018 levels due to reductions from state measures (see Table 4.2-6). EMFAC2017 takes into account reductions from the Pavley Clean Car Standard and Advanced Clean Cars. In addition, as shown in Table 4.2-6, the 2040 Project scenario would result in lower criteria pollutant emissions than the 2040 No Project scenario. Increased VMT may contribute to an increase in re-entrained roadway dust; however, as shown in Table 4.2-7, the 2020 RTP/SCS would result in fewer VMT and therefore lower re-entrained dust emissions when compared to the No Project scenario. In addition, the project would not result in a percent of daily VMT 50 mph or higher compared to the No Project scenario. Butte County is designated as a non-attainment area for state PM₁₀. Therefore, a decrease in re-entrained dust from vehicle activity would not exacerbate the existing PM₁₀ standard violation or result in a cumulatively considerable net increase of PM₁₀. Impacts from re-entrained dust generated by off-road construction activities would remain less than significant.

Table 4.2-7 Roadway Activity Summary

Scenario	Total Daily VMT	Percent of Daily VMT at 50 mph or Higher
2018 Baseline	4,869,563	47
2040 Project	5,527,717	49
2040 No Project	6,412,051	49

Source: Fehr & Peers 2020

Mitigation Measures

None required.

d. Specific 2020 RTP/SCS Projects That May Result in Impacts

The proposed projects listed in Table 2-1 of Section 2.0, *Project Description*, would have the potential to result in air quality impacts. All projects that include a construction component would be associated with Impact AQ-4. Projects that include roadway and transit features and/or expansions would be associated with Impacts AQ-1 through AQ-3 and Impact AQ-5. Additional specific analysis will need to be conducted as the individual projects are designed and implemented in order to determine the actual magnitude of impact. Mitigation measures discussed above could apply to these specific projects.

4.3 Biological Resources

This section analyzes impacts related to Biological Resources in the BCAG region.

4.3.1 Setting

a. Habitats

Butte County contains a diversity of tree (hardwood, coniferous, and mixed, and riparian forests), shrub (chaparrals, herbaceous (grasslands, pastures) and developed habitat types. Twenty-seven terrestrial habitat types were mapped in Butte County using the California Department of Fish and Wildlife (CDFW) California Wildlife Habitat Relationships (CWHR) habitat classification system (CDFW 2020).

Butte County is a biologically diverse part of the state. According to the CWHR System, there are 43 wildlife habitat classifications in Butte County out of 59 found in the state. Below is a brief description of each habitat that is found in Butte County (Mayer and Laudenslayer 1988). Two aquatic habitat types are also designated and are discussed. Figure 4.3-1 illustrates the land cover types within Butte County. Habitats are generalized and site-specific variation is present throughout Butte County as the CWHR classification system maps habitats from a broad perspective, and in many areas it is expected that two or more habitats may integrate with one another. Habitats that occur within populated areas also show variation owing to greater anthropogenic influences, such as the introduction of non-native plant species and non-native and feral animals. A discussion of habitat types in the Plan Area is included in Appendix C.

b. Wetlands

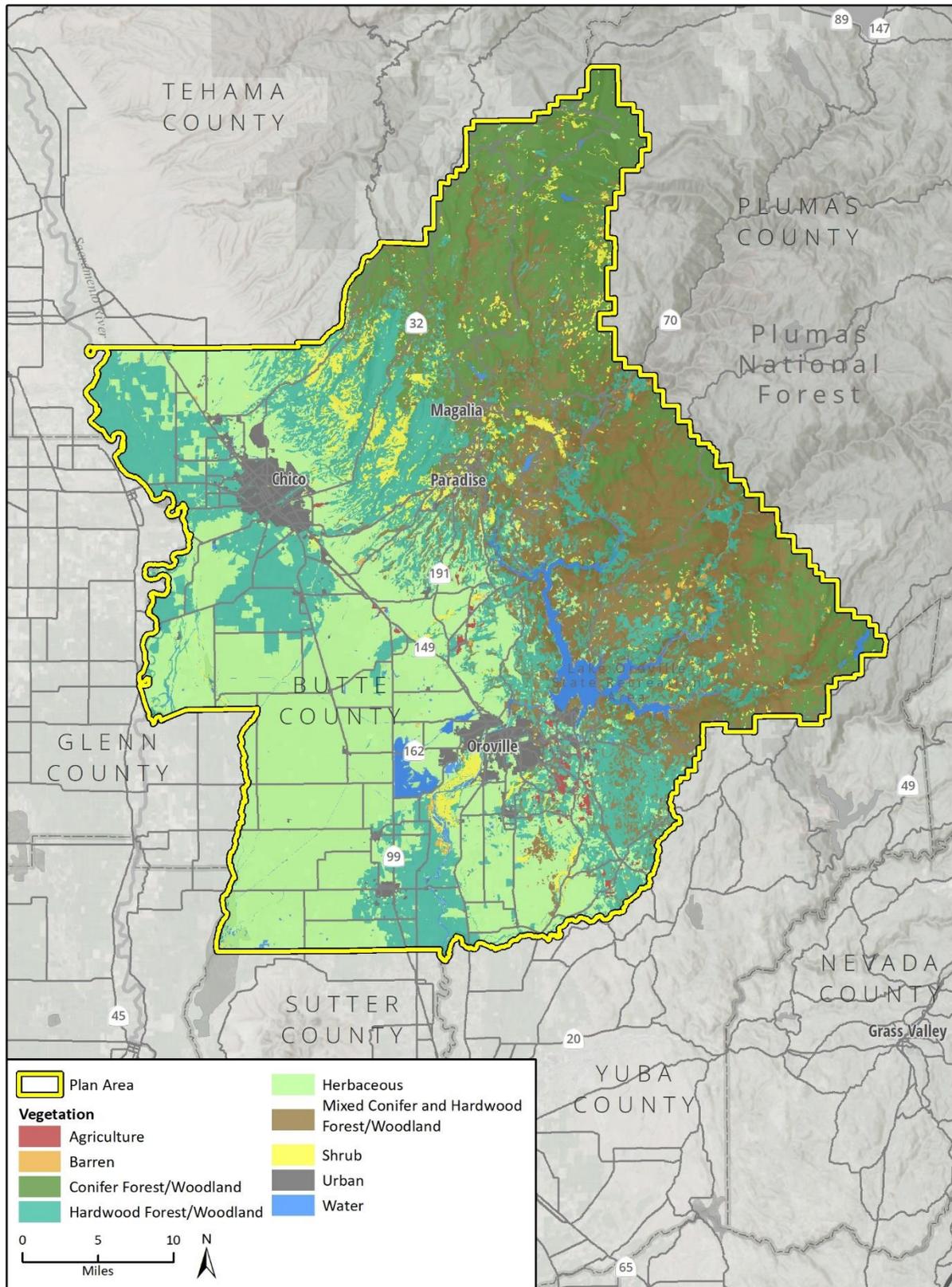
Butte County contains a major river, the Sacramento River, which drains an area of the southern Cascade Range, the northwestern Sierra Nevada, and the Central Valley. Major tributaries in the county include the Feather River, Butte Creek, and Big Chico Creek, as well as numerous other streams as shown in Figure 4.3-2. The drainages within these watersheds provide valuable foraging, breeding, and dispersal habitat for a wide variety of species, including sensitive species such as Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley steelhead (*Oncorhynchus mykiss*), and green sturgeon (*Acipenser medirostris*). See Appendix C for a discussion of types of wetlands in the Plan Area.

c. Watersheds

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

Butte County is situated within the Sacramento River Basin. Some of the tributaries to the Sacramento River in Butte County include the Feather River, Pine Creek, Rock Creek, Mud Creek, Big Chico Creek, Butte Creek, Cherokee Canal/Clear Creek, as well as other smaller drainages. Some of the larger watersheds include Lake Oroville, Thermalito Forebay and Afterbay, Paradise Lake, and Sly Creek Reservoir. Figure 4.3-2 depicts the hydrology within the Plan Area. A discussion of watersheds in the Plan Area is included in Appendix C.

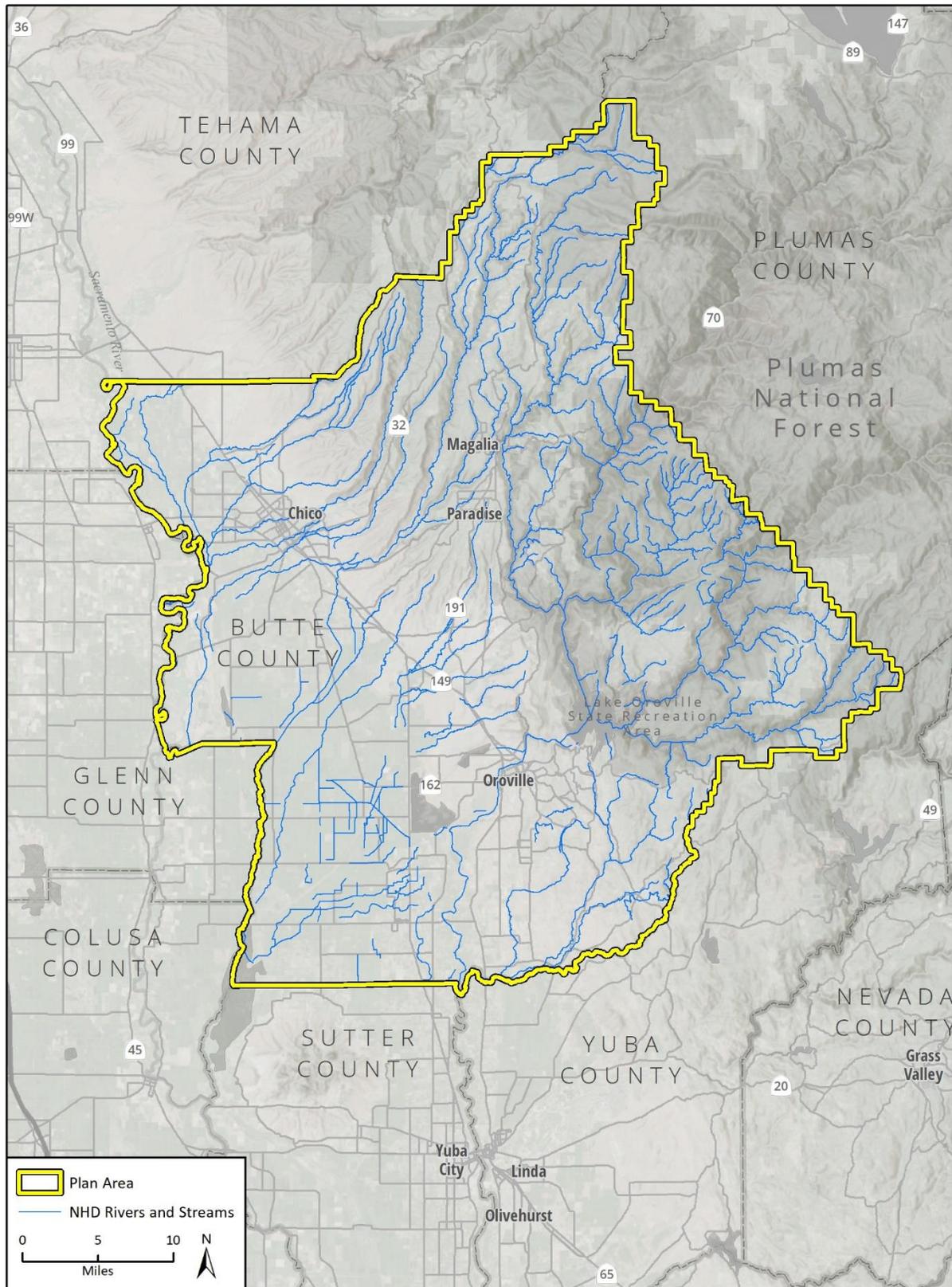
Figure 4.3-1 Butte County Vegetation



Imagery provided by Esri and its licensors © 2020.
 Additional data provided by CalVeg, 2019.

Fig 4.3-1 Vegetation

Figure 4.3-2 Hydrology and Riverine Resources



Imagery provided by Esri and its licensors © 2020.
Additional data provided by USGS, 2020.

Fig. 4.3-2 Hydrology

d. Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain species that are tolerant to disturbance. Depending upon the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

Wildlife movement corridors can be both large and small scale. The mountainous regions of Butte County may support wildlife movement on a regional scale while riparian corridors, waterways, flood control channels, canals, and contiguous upland habitat on levees may provide more local-scale opportunities for wildlife movement throughout the county. The CDFW BIOS (2020) mapped several essential connectivity areas within Butte County. One corridor extends from the border with Tehama County southward through the Paradise Ridge area then to Lake Oroville. A second corridor extends from the boarder with Tehama County in a southeast direction, across the Philbrook area, towards western Plumas County. A discussion of wildlife movements corridors in the Plan Area is included in Appendix C.

e. Noxious Weeds

For the purpose of this analysis and future project-specific assessments, a noxious weed is defined as a plant that could displace native plants and natural habitats, affect the quality of forage on rangelands, or affect cropland productivity. The California Department of Food and Agriculture (CDFA) lists weeds and assigns ratings (A–C) to each species on the list. The ratings reflect CDFA’s view of the statewide importance of the pest, the likelihood that eradication or control efforts would be successful, and the present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances. The rating system includes:

- A:** an organism of known economic importance subject to state (or commissioner, when acting as a state agent) enforced action involving eradication, quarantine, containment, rejection, or other holding action.
- B:** an organism of known economic importance subject to eradication, containment, control, or other holding action at the discretion of the individual county agricultural commissioner, or an organism of known economic importance subject to state- endorsed holding action and eradication only when found in a nursery.

- C:** an organism subject to no state-enforced action outside of nurseries except to retard spread at the discretion of the commissioner, or an organism subject to no state-enforced action except to provide for pest cleanliness in nurseries.

f. Special Status Species and Sensitive Communities

For the purpose of this Supplemental EIR, special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS under the federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA); animals designated as “Species of Special Concern,” “Fully Protected,” or “Watch List” by the CDFW; and plants with a California Rare Plant Rank (CRPR) of 1, 2, 3, and 4, and are defined as:

- List 1A = Plants presumed extinct in California
- List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- List 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80 percent occurrences threatened)
- List 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20 percent of occurrences threatened or no current threats known)
- List 2 = Rare, threatened or endangered in California, but more common elsewhere
- List 3 = Plants needing more information (most are species that are taxonomically unresolved; some species on this list meet the definitions of rarity under CNPS and CESA)
- List 4.1 = Plants of limited distribution (watch list), seriously endangered in California
- List 4.2 = Plants of limited distribution (watch list), fairly endangered in California (20-80 percent occurrences threatened)
- List 4.3 = Plants of limited distribution (watch list), not very endangered in California

Queries of the USFWS Environmental Conservation Online System (ECOS): Information for Planning and Consultation (IPaC) (USFWS 2020b), USFWS Critical Habitat Portal (USFWS 2020a), California Natural Diversity Database (CNDDDB) (California Department of Fish and Wildlife 2020), and California Native Plant Society (CNPS) Online Inventory of Rare, Threatened and Endangered Plants of California (CNPS 2020) were conducted. The queries were conducted to obtain comprehensive information regarding state and federally listed species, sensitive communities, and federally designated Critical Habitat known to or considered to have potential to occur within the Plan Area.

Sensitive Communities and Critical Habitat

The CNDDDB lists eight sensitive natural communities that occur within Butte County. Federally designated critical habitat for twelve species also occurs in Butte County. Sensitive communities and critical habitats are listed in Table 4.3-1.

Special-Status Plants and Animals

Butte County is home to several species protected by federal and state agencies. The CNDDDB (CDFW 2020), CNPS (2020), and USFWS ECOS IPaC (2020) together list special status plant (67 species) and animal (54 species) species that are known to or with potential to occur in the Plan Area. The status and habitat requirements for each of these species are shown in Appendix C.

Table 4.3-1 Designated Sensitive Communities and Critical Habitats within Butte County

Communities Considered Sensitive by the CDFW
Northern Hardpan Vernal Pool
Northern Basalt Flow Vernal Pool
Northern Volcanic Mud Flow Vernal Pool
Coastal and Valley Freshwater Marsh
Great Valley Valley Oak Riparian Forest
Great Valley Cottonwood Riparian Forest
Great Valley Mixed Riparian Forest
Great Valley Willow Scrub
Critical Habitat Designated by USFWS
Butte County meadowfoam
California red-legged frog
Conservancy fairy shrimp
Greene’s tuctoria
Hairy Orcutt grass
Hoover’s spurge
Vernal pool fairy shrimp
Vernal pool tadpole shrimp
Yellow-billed cuckoo
Critical Habitat Designated by NMFS
Central Valley spring-run Chinook salmon
Sacramento River winter-run Chinook salmon
California Central Valley steelhead
Southern Distinct Population Segment green sturgeon
Sources: CNDDDB (CDFW 2020); USFWS Critical Habitat Portal (2020); NMFS (2020)

4.3.2 Regulatory Framework

Federal, state, and local authorities under a variety of statutes and guidelines share regulatory authority over biological resources. The primary authority for general biological resources lies within the land use control and planning authority of local jurisdictions, which in this instance is the County of Butte and local municipalities. CDFW is a trustee agency for biological resources throughout the state under the California Environmental Quality Act (CEQA) and also has direct jurisdiction under the California Fish and Game Code (CFGC), which includes, but is not limited to, resources protected by the State of California under the CESA.

Federal and State Jurisdictions

United States Fish and Wildlife Service

The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National

Marine Fisheries Service (NMFS) share responsibility for implementing the FESA (16 USC Section 153 et seq.). The USFWS generally implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in “take” of any federally listed threatened or endangered species are required to obtain permits from the USFWS and/or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. “Take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

United States Army Corps of Engineers

Under Section 404 of the Clean Water Act, the USACE has authority to regulate activities that result in discharge of dredged or fill material into wetlands or other “waters of the United States.” Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetlands. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any discharge into wetlands or other “waters of the United States” that are hydrologically connected and/or demonstrate a significant nexus to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetlands is met through compensatory mitigation involving creation or enhancement of similar habitats.

California Department of Fish and Wildlife

CDFW derives its authority from the CFGC. The CESA (Fish and Game Code Section 2050 et. seq.) prohibits “take” of state-listed threatened and endangered species. Take under CESA is restricted to direct harm of a listed species and does not prohibit indirect harm by way of habitat modification. The CDFW additionally prohibits take for species designated as Fully Protected under the CFGC under various sections. Projects that would result in take of any state-listed threatened or endangered species are required to obtain an incidental take permit (ITP) pursuant to Fish and Game Code Section 2081. The issuance of an ITP is dependent upon the following: 1) the authorized take is incidental to an otherwise lawful activity; 2) the impacts of the authorized take are minimized and fully mitigated; 3) the measures required to minimize and fully mitigate the impacts of the authorized take are roughly proportional in extent to the impact of the taking on the species, maintain the applicant’s objectives to the greatest extent possible, and are capable of successful implementation; 4) adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and 5) issuance of the permit will not jeopardize the continued existence of a state-listed species.

CFGC Sections 3503, 3503.5, and 3511 describe unlawful take, possession, or destruction of birds, nests, and eggs. Fully protected birds (CFGC Section 3511) may not be taken or possessed except under specific permits. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Species of Special Concern (SSC) is a

category used by the CDFW for those species that are considered to be indicators of regional habitat changes or are considered to be potential future protected species. SSC do not have any special legal status except those afforded by the CFGC as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species into special consideration when decisions are made concerning the development of natural lands, and these species are considered sensitive as described under the CEQA. CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.). The NPPA requires CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the plant(s).

Perennial and intermittent streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 et seq. of the CFGC (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream, or lake.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and each of nine local Regional Water Quality Control Boards (RWQCB) has jurisdiction over “waters of the State” pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to “isolated” waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The local RWQCB enforces actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the CWA for waters subject to federal jurisdiction.

California Department of Transportation

California Streets and Highways Code Section 156.3. Assessments and remediation of potential barriers to fish passage for transportation projects using state or federal transportation funds are required. Such assessments must be conducted for any projects that involve stream crossings or other alterations and must be submitted to the CDFW.

Local Jurisdictions General Plans

A discussion of the various General Plans adopted within Butte County is included below. Please see Appendix C for a discussion of how local general plans in Butte County pertain to the protection of biological resources.

BUTTE COUNTY

The Conservation and Open Space Element of the Butte County General Plan includes goals, policies and actions to protect biological resources (Butte County 2010). Various policies are also included that pertain to, but are not limited to, protection of rare and endangered species, development in environmentally sensitive areas, and protection of riverine and riparian areas. Goals, policies and

actions regarding biological resources that are applicable to the project in Butte County pursuant to the 2020 RTP/SCS are included in Appendix C.

CITY OF CHICO

The Open Space and Environment Element of the City of Chico General Plan includes goals, policies and actions to protect the natural resources found within the city (Chico, City of 2010). Goals, policies and actions that are applicable to projects in Chico pursuant to the 2020 RTP/SCS are included in Appendix C.

CITY OF GRIDLEY

The Conservation Element and Open Space Element of the City of Gridley General Plan includes goals, policies and implementation measures to protect the biological resources found within the city (Gridley, City of 2010). The policies and implementation measures that are applicable to projects in Gridley pursuant to the 2020 RTP/SCS are included in Appendix C.

CITY OF BIGGS

The Conservation, Open Space and Recreation Element of the City of Biggs General Plan includes goals, policies and actions to protect the biological resources found within the city (Biggs, City of 2014). The goals, policies and actions that are applicable to projects in the City of Biggs pursuant to the 2020 RTP are included in Appendix C.

CITY OF OROVILLE

The Open Space/Natural Resource Conservation Element of the City of Oroville General Plan includes goals, objectives and implementation measures to protect the biological resources found within the city (Oroville, City of 2015). The goals, objectives and implementation measures that are applicable to projects in the City of Biggs pursuant to the 2020 RTP/SCS are included in Appendix C.

TOWN OF PARADISE

The Open Space, Natural Resources and Conservation Element of the Town of Paradise General Plan includes objectives, policies, and implementation measures to protect the biological resources found within the city (Paradise, Town of 1994). The objectives, policies and implementation measures that are applicable to projects in the Town of Paradise pursuant to the 2020 RTP/SCS are included in Appendix C.

Regional Conservation Planning

A Habitat Conservation Plan (HCP) is a federal planning document that is prepared pursuant to Section 10 of the Federal Endangered Species Act (FESA). An approved HCP within a defined plan area allows for the incidental take of species and habitat that are otherwise protected under FESA during development activities.

A Natural Community Conservation Plan (NCCP) is a state planning document administered by CDFW. An approved NCCP within a defined plan area allows for the incidental take of species and habitat that are otherwise protected under CESA during growth and development activities.

BUTTE REGIONAL CONSERVATION PLAN

BCAG is in the process of developing an HCP/NCCP for Butte County. The HCP/NCCP, called the Butte Regional Conservation Plan (BRCP), takes a broad-based ecosystem approach to planning for the protection of biological diversity in perpetuity. The BRCP is intended to establish and implement an effective program to conserve ecologically important resources in the lowland and foothill region of Butte County, including sensitive, at-risk species and their habitats, natural communities, and biodiversity. Important to the success of the BRCP is the continued ecological and economic function of working landscapes, including certain farming and ranching practices, and the preservation of open space. The BRCP addresses state and federal endangered species compliance requirements for the County of Butte, the City of Oroville, the City of Chico, the City of Biggs, the City of Gridley, the Butte County Association of Governments (BCAG), the California Department of Transportation (Caltrans), Western Canal Water District (WCWD), Biggs West Gridley Water District, Butte Water District, and the Richvale Irrigation District. The BRCP implementing Entity will be established to implement the BRCP (collectively, the “Permit Applicants” prior to permit issuance or “Permittees” following permit issuance) for activities and projects in the Plan Area that they conduct or approve. THE BRCP provides a more efficient, consistent, and effective alternative to project-by-project permitting that may be costly and time consuming for applicants and often results in uncoordinated and biologically ineffective mitigation.

The BRCP has been in development since 2007, and has involved the public and other stakeholders interested in the region’s future growth and protection of natural resources. Phase one included the development of an Ecological Baseline Conditions Report, supporting GIS database, Planning and Decision Making Structure, Covered Species Accounts, and determining the plan area boundary. Phase two included assembling an Independent Science Advisory Panel, coordinating a guidance report, and developing a planning agreement, public participation plan, covered species accounts, and species habitat models, as well as completing the several administrative draft chapters of the BRCP. Phase three included completion of the administrative draft BRCP. Phase four included preparation of the administrative draft BRCP, preparation of an administrative draft Environmental Impact Assessment (EIS)/EIR, public workshops, development of a public draft BRCP and EIS/EIR, and development of draft implementing agreements. Phase five is currently underway and includes development of a final BRCP and final EIS/EIR, public workshops, and adopting/permitting of the BRCP.

The BRCP is intended to establish a coordinated process for permitting and mitigating the incidental take of endangered species throughout the Plan Area. This process creates an alternative to the current project-by-project approach. Rather than individually surveying, negotiating, and securing mitigation as typically occurs through project by project mitigation, once the BRCP is in place, project proponents will receive authorization to proceed under programmatic endangered species permits by paying a fee or dedicating on-site mitigation.

The fees are collected by an implementation entity (likely BCAG) defined in the BRCP. The implementation entity uses the fee money, as well as grants and any other funding sources established in the plan, to purchase habitat lands and easements from willing sellers. Collected funds are also used for monitoring and any habitat enhancement or management actions.

4.3.3 Impact Analysis

a. Methodology and Significance Thresholds

It should be noted that the following analysis is programmatic, and encompasses the broader 2020 RTP/SCS region because final designs (which also includes project components such as potential staging areas, project access, etc.) are not developed for projects included in the 2020 RTP/SCS. Thus, specific impacts to biological resources are unknown at this time. Data used for this analysis include aerial photographs, topographic maps, the CNDDDB, the CNPS online inventory of rare and endangered plants, and accepted scientific texts to identify species. Federal special status species inventories maintained by the USFWS were reviewed in conjunction with the CNDDDB and CNPS online inventory. Other data on biological resources were collected from numerous sources, including relevant literature, maps of natural resources, and data on special status species and sensitive habitat information obtained from the CDFW, CNDDDB (2016), CDFW BIOS (CDFW, 2016), the California Wildlife Habitat Relationships (CWHR) (CDFW, 2016), the California Native Plant Society (CNPS) online Inventory of Rare, Threatened, and Endangered Plants of California (2016), and the UUSFWS ECOS IPaC (2016b). The USFWS Critical Habitat Mapper (2016a) and National Wetlands Inventory (NWI; 2016c) were also queried.

b. Significance Thresholds

Pursuant to the *CEQA Guidelines*, potentially significant impacts to biological resources would result if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

This SEIR augments the previously certified EIR for the 2016 RTP/SCS and analyzes only the changes in the 2016 RTP/SCS or changes in circumstances under which the 2020 RTP/SCS projects would be implemented since certification of the previous 2016 EIR. Therefore, for issue areas where impacts would be similar to or less than the impact level identified in the previous 2016 EIR, no further analysis is warranted.

c. Project Impacts and Mitigation Measures.

Threshold:	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
Threshold	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

Impact BIO-1 SIMILAR TO THE 2016 RTP/SCS, IMPLEMENTATION OF PROJECTS IN THE 2020 RTP/SCS HAVE THE POTENTIAL TO RESULT IN IMPACTS TO SPECIAL STATUS SPECIES AND THEIR HABITATS. IMPLEMENTATION OF MITIGATION MEASURES FROM THE 2016 RTP/SCS EIR WOULD REDUCE IMPACTS TO LESS THAN SIGNIFICANT.

The USFWS, CNDDDB, and CNPS databases identified 131 special-status species that occur, or potentially occur within the Plan Area (see Appendix C). All species are presumed present at any given time throughout their habitat range. Some species require localized microhabitats, while others are highly mobile and may occur throughout the County. Many of the documented special-status species may be directly or indirectly affected by new projects listed in the 2020 RTP/SCS if the improvements would encroach on the species' habitat or movement corridors. Below is a brief description of the special status species that are present in the region and their habitat requirements.

Invertebrates

There are five special-status invertebrates with potential to occur within the Plan Area. These include: conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, and valley elderberry longhorn beetle. In addition, the western bumble bee, which has been newly listed since the 2016 RTP/SCS, nests underground, occasionally in old animal burrows and requires plants that bloom and provide adequate nectar and pollen. All five special status invertebrates would be covered under the BRCP.

Reptiles and Amphibians

There are nine special-status reptiles and amphibians with potential to occur in the Plan Area. These include: the California tiger salamander, which is found in grassland habitats where there are nearby seasonal wetlands for breeding; western pond turtle, which requires aquatic environments located along ponds, marshes, rivers, and ditches; Blainville's horned lizard, which occurs in a variety of habitats including, woodland, forest, riparian, and annual grasslands, usually in open sandy areas; the foothill yellow-legged frog, which occurs in partly shaded and shallow streams with rocky soils; the Cascades frog, which is found in water and surrounding vegetation in mountain lakes, streams, and ponds up to timber line; California red legged frog, which occurs in stream pools and ponds with riparian or emergent marsh vegetation; the Sierra Nevada yellow-legged frog, which occurs in streams, lakes, and ponds at higher elevations; western spadefoot toad, which requires grassland habitats associated with vernal pools; and giant garter snake, which is found in freshwater marshes sloughs, ponds, lakes, agricultural wetlands, and irrigation canals.

Five of the nine species are proposed to be covered under the BRCP. These include: western pond turtle, Blainville's horned lizard, foothill yellow-legged frog, western spadefoot, and giant garter snake. The species that would not be covered under the BRCP include: California tiger salamander, Cascades frog, California red-legged frog, and Sierra Nevada yellow-legged frog. These species either occur outside the BRCP plan area or are no longer considered present in Butte County (i.e., California tiger salamander).

Fish

There are seven special-status fish species with potential to occur in the Plan Area. These include: green sturgeon, hardhead, Central Valley steelhead, Chinook salmon – Sacramento River winter-run, Chinook salmon – Central Valley spring-run ESU, Central Valley fall/late fall-run Chinook salmon, and Sacramento splittail. All of these species are associated with aquatic habitat.

Four of the seven species are proposed to be covered under the BRCP. These include: Central Valley steelhead, Chinook salmon – Sacramento River winter-run, and Chinook salmon – Central Valley spring-run ESU, Central Valley fall/late fall-run Chinook salmon.

Birds

There are 30 special-status birds with potential to occur in the Plan Area. These include: Northern goshawk, Tricolored blackbird, Golden eagle, Cooper's hawk, Short-eared owl, Long-eared owl, Western burrowing owl, redhead, Swainson's hawk, Vaux's swift, black tern, Northern harrier, Western yellow-billed cuckoo, olive sided flycatcher, black swift, yellow warbler, white-tailed kit, willow flycatcher, American peregrine falcon, greater sandhill crane, bald eagle, yellow-breasted chat, least bittern, loggerhead shrike, California black rail, American white pelican, purple martin, bank swallow, great grey owl, bank swallow, great gray owl, California spotted owl, and least Bell's vireo. These bird species live in a broad range of habitat types within Butte County.

Eleven of the 30 species are proposed to be covered under the BRCP. These include: Tricolored blackbird, Yellow-breasted chat, Bank swallow, Western burrowing owl, Western yellow billed cuckoo, greater sandhill crane, California black rail, American peregrine falcon, Swainson's hawk, White-tailed kite, and bald eagle. All other species are not proposed to be covered under the BRCP. These species occur outside the BRCP plan area, are included in the "BRCP species of local concern," or are not likely to be listed during the permit term of the BRCP.

Mammals

There are eleven special-status mammals with potential to occur in the Plan Area. These include: pallid bat, Townsend's big-eared bat, western mastiff bat, western red bat, long-eared myotis, Sierra Nevada mountain beaver, Sierra Nevada red fox, Pacific fisher, and American badger. These mammal species live in a broad range of habitat types within Butte County.

None of the eight species are proposed to be covered under the BRCP. These species either occur outside the BRCP plan area, or are not likely to be listed during the permit term of the BRCP.

Plants

The Plan Area is composed of a very diverse range of habitat types. These include chaparral, woodland, forest, alpine, grassland, meadows, and riparian, among others. Within these broad habitat types, there are cismontane forests and woodlands, lower montane forests, subalpine forests, foothill grasslands, riparian forests, bogs and fens, and chaparral, among others. This

diverse plant mosaic within the region allows for some of the most diverse plant communities in the state. Within these plants communities there are numerous special status plants, many of which only occur in the region (endemic). A full list of the special status plants within the region is in Table 4.3-2.

Six of the 66 species are proposed to be covered under the BRCP. These include: Hoover's spurge, Butte County meadowfoam, hairy Orcutt grass, slender Orcutt grass, and Butte County checkerbloom, All other species are not proposed to be covered under the BRCP. These species either occur outside the BRCP plan area, are included in the "BRCP species of local concern" or are not likely to be listed during the permit term of the plan.

Sensitive Natural Communities

Some of the terrestrial and wetlands resources found within Butte County are of global as well as regional significance and are therefore considered sensitive natural communities. The sensitive natural communities within the area that are currently rare enough to be listed in the CNDDDB include the following: Coastal and Valley Freshwater Marsh, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, Great Valley - Valley Oak Riparian Forest, Great Valley Willow Scrub, Northern Basalt Flow Vernal Pool, Northern Hardpan Vernal Pool, Northern Volcanic Mud Flow Vernal Pool.

Discussion

Due to the programmatic nature of the 2020 RTP/SCS, a precise, project-level analysis of the specific biological resources impacts for each RTP project is not possible at this time. However as discussed in the 2016 RTP/SCS EIR, construction and maintenance activities associated with new individual projects proposed under the 2020 RTP/SCS could result in the direct loss or indirect disturbance of special-status plants and wildlife species. Impacts on special-status species or their habitat could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on special -status wildlife species associated with projects in the 2020 RTP/SCS include:

- Increased mortality caused by higher numbers of automobiles on new or widened roads;
- Direct mortality from the collapse of underground burrows, resulting from soil compaction;
- Direct mortality resulting from the movement of equipment and vehicles through the Plan Area;
- Direct mortality resulting from removal of trees with active nests;
- Direct mortality or loss of suitable habitat resulting from the trimming or removal of obligate host plants;
- Direct mortality resulting from fill of wetlands features;
- Loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;
- Loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- Loss of suitable habitat for vernal pool invertebrates resulting from the destruction or degradation of vernal pools or seasonal wetlands;

- Abandoned eggs or young and subsequent nest failure for special-status nesting birds, including raptors, and other non-special status migratory birds resulting from construction-related noises;
- Loss or disturbance of rookeries and other colonial nests;
- Loss of suitable foraging habitat for special-status raptor species; and
- Loss of migration corridors resulting from the construction of permanent structures or features.

Impacts from individual projects would need to be addressed on a case-by-case bases. The design process for each project included in the 2020 RTP/SCS would involve a level of field reconnaissance to precisely identify the potential for impacts to special status species and to identify project specific design measures that can be employed to avoid or minimize an impact. Project specific design measures may include alternative designs to avoid habitats that are considered more sensitive and required for special status species. As discussed in the 2016 RTP/SCS EIR, an impact would occur if a project would result in a take of a special status species or their habitat and it would be required to go through a permit process with the appropriate regulatory agency.

Consistency with the County and City policies as well as adopted federal and state regulations that protect special-status species, including their habitat and movement corridors, would ensure that appropriate design measures, including avoidance, if appropriate, are incorporated into the design of each project. Additionally, compliance with the Butte Regional Conservation Plan (BRCP), once it is adopted, would ensure that special status species are protected to the extent feasible, and mitigation is incorporated as necessary. However, similar to the findings in the 2016 RTP/SCS EIR, there is still a reasonable chance that special status species would be impacted from development of projects in the 2020 RTP/SCS. Impacts would be potentially significant.

Mitigation Measures

The following mitigation measures included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects identified in Table 4.3-2. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

BIO-1 Special Status Species

Prior to final design approval of individual projects, the implementing agency shall have a qualified biologist conduct a field reconnaissance of the environmental limits of the project in an effort to identify any biological constraints for the project, including special status plants, animals, and their habitats, as well as protected natural communities including wetland and terrestrial communities. If the biologist identifies protected biological resources within the limits of the project, the implementing agency shall first, prepare alternative designs that seek to avoid and/or minimize impacts to the biological resources. If the project cannot be designed without complete avoidance, the implementing agency shall coordinate with the appropriate regulatory agency (i.e., USFWS, NMFS, CDFG, USACE) to obtain regulatory permits and implement project - specific mitigation prior to any construction activities.

For projects that are located within the BRCP Plan Area, and are constructed after final approval and permitting of the BRCP, the implementing agency shall coordinate with the BRCP administrator to

verify whether the project is a covered activity under the BRCP. If so, the implementation agency will follow the BRCP program for environmental compliance. This would include determining land cover present on the project site, conducting any necessary surveys, determining applicable avoidance and minimization measures, and paying the appropriate mitigation fees or providing land in lieu of fees as established by the BRCP.

Significance After Mitigation

Mitigation Measure BIO-1 would assure that impacts to special status species would be less than significant because the measures require that specific analyses and studies are performed to identify and evaluate project impacts to special status species potentially affected by projects implemented under the 2020 RTP/SCS. Compliance with the above mitigation measure and all existing state, local and/or federal regulations would reduce impacts to a less than significant level, consistent with the findings for the 2016 RTP/SCS EIR.

Threshold:	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
Threshold:	Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact BIO-2 SIMILAR TO THE 2016 RTP/SCS, IMPLEMENTATION OF PROJECTS IN THE 2020 RTP/SCS HAVE THE POTENTIAL TO RESULT IN IMPACTS TO RIPARIAN HABITAT OR OTHER SENSITIVE NATURAL COMMUNITIES. IMPLEMENTATION OF MITIGATION MEASURES FROM THE 2016 RTP/SCS EIR WOULD REDUCE IMPACTS TO LESS THAN SIGNIFICANT.

As discussed in the 2016 RTP/SCS EIR, the Plan Area contains sensitive natural communities, such as riparian, oak woodland, streams, rivers, wet meadows, and vernal pools. Proposed projects in the 2020 RTP/SCS have the potential to impact these sensitive natural communities during project construction and/or operation.

Construction activities associated with individual projects in the 2020 RTP/SCS could occur across a river, stream, or creek. Such activities could result in the disturbance or loss of waters of the United States. This includes perennial and intermittent drainages; unnamed drainages; vernal pools; freshwater marshes; and other types of seasonal and perennial wetland communities. Wetlands and other waters of the United States could be affected through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities.

Consistency with the applicable County and City policies would ensure that appropriate design measures, including avoidance, if appropriate, are incorporated into the design of each improvement project. As discussed in the 2016 RTP/SCS EIR, there is a reasonable chance that natural communities, including wetlands, riparian, or other sensitive natural communities could be impacted throughout the buildout of the individual projects in the 2020 RTP/SCS. This impact could result in adverse effects on wetlands, riparian, or other sensitive natural communities and impacts would be potentially significant.

Mitigation Measures

The following mitigation measures included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects identified in Table 4.3-2. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

BIO-2(a) Aquatic Environment Documentation

Prior to approval of individual projects, the implementing agency shall retain a qualified biologist to perform an assessment of the project area to identify wetlands, riparian, and other sensitive aquatic environments. If wetlands are present the qualified biologist shall perform a wetland delineation following the 1987 Army Corps of Engineers Wetlands Delineation Manual and any applicable regional supplements to the Delineation Manual. The wetland delineation shall be submitted to the USACE for verification.

BIO-2(b) Aquatic Environment Avoidance and Minimization

If wetlands, riparian, or other sensitive aquatic environments are found within the project limits, the implementing agency shall design or modify the project to avoid direct and indirect impacts on these habitats, if feasible. Additionally, the implementing agency shall minimize the loss of riparian vegetation by trimming rather than removal where feasible.

Prior to construction, the implementing agency shall install orange construction barrier fencing to identify environmentally sensitive areas around the wetland (20' from edge), riparian area (100' from edge), and other aquatic habitats (250' from edge of vernal pool), or as defined by the agency with regulatory authority over the resource(s). The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction period. The following paragraph will be included in the construction specifications:

The Contractor's attention is directed to the areas designated as "environmentally sensitive areas." These areas are protected, and no entry by the Contractor for any purpose will be allowed unless specifically authorized in writing by the BCAG. The Contractor will take measures to ensure that Contractor's forces do not enter or disturb these areas, including giving written notice to employees and subcontractors.

Temporary fences around the environmentally sensitive areas will be installed as the first order of work. Temporary fences will be furnished, constructed, maintained, and removed as shown on the plans, as specified in the special provisions, and as directed by the project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least 4 feet high (Tensor Polygrid or equivalent). The fencing will be tightly strung on posts with a maximum 10-foot spacing.

Immediately upon completion of construction activities the contractor shall stabilize exposed soil/slopes. On highly erodible soils/slopes, use a nonvegetative material that binds the soil initially and breaks down within a few years. If more aggressive erosion control treatments are needed, geotextile mats, excelsior blankets, or other soil stabilization products will be used. All stabilization efforts should include habitat restoration efforts.

BIO-2(c) Compensation for Loss of Aquatic Environments

If wetlands or riparian habitat are disturbed as part of an individual project, the implementing agency shall compensate for the disturbance to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site -specific information and determined through coordination with state, federal, and local agencies as part of the permitting process for the project. Unless determined otherwise by the regulatory/permitting agency, the compensation shall be at a minimum ratio of 3 acres restored, created, and/or preserved for every 1 acre disturbed. Compensation may comprise onsite restoration/creation, off -site restoration, preservation, or mitigation credits (or a combination of these elements). The implementing agency shall develop and implement a restoration and monitoring plan that describes how the habitat shall be created and monitored over a minimum period of time.

Significance After Mitigation

Mitigation Measures BIO-2(a) through BIO-2(c) would assure that impacts to wetland resources and sensitive natural communities would be less than significant because measures would be taken to either avoid the impacts or minimize the impacts. Where full avoidance is not possible, the participation in pre-established habitat protection programs or state/federal permit mitigation programs would offset any potential impacts associated with project implementation. Compliance with the above mitigation measures and all existing state, local and/or federal regulations would reduce impacts to a less than significant level, consistent with the findings for the 2016 RTP/SCS EIR.

Threshold: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Impact BIO-3 SIMILAR TO THE 2016 RTP/SCS, IMPLEMENTATION OF PROJECTS IN THE 2020 RTP/SCS MAY INTERFERE WITH WILDLIFE MOVEMENT. IMPLEMENTATION OF MITIGATION MEASURES FROM THE 2016 RTP/SCS EIR WOULD REDUCE IMPACTS TO LESS THAN SIGNIFICANT.

Native fish and wildlife species within the Plan Area migrate and/or utilize movement corridors. The most notable for their protection status include the Chinook salmon (*Oncorhynchus tshawytscha*) and steelhead trout (*Oncorhynchus mykiss*). Potential impacts to wildlife migration are described below.

Salmon and Steelhead

Salmon and steelhead trout are anadromous fish species that are present in the San Joaquin and Sacramento River Basins. The Sacramento River system has historically supported steelhead trout and four distinct spawning runs of Chinook salmon: fall, late fall, winter, and spring. The fall/late fall-run Chinook salmon is a federal and state species of concern, and a candidate species for federal listing. The spring-run Chinook salmon population is listed as threatened by both federal and state agencies. Winter-run Chinook salmon population is listed as a federally and state endangered species. The Central Valley steelhead was federally listed as threatened in 2003. Populations of Central Valley Steelhead and Chinook salmon have been supported by hatcheries within the Sacramento River Basin. Similar to the 2016 RTP/SCS, construction and operation of transportation projects and implementation of the land use scenario may impact salmon and steelhead.

Fall-run and Late Fall-run Chinook Salmon

Fall-run and late fall-run Chinook salmon migrate, hold, spawn, and rear throughout the entire reaches of Butte, Big Chico, and Little Chico creeks within the Plan Area. Fall -/late fall-run Chinook salmon also migrate, hold, spawn, and rear in the Feather River upstream to the Fish Diversion Dam, which serves as a barrier to movement further upstream. Non-natal juvenile rearing occurs in lower portions of Mud Creek and Big Chico Creek. Similar to the 2016 RTP/SCS, construction and operation of transportation projects and implementation of the land use scenario may impact Chinook salmon.

Spring-run Chinook Salmon

Spring-run Chinook salmon spawning and holding has been recorded in three main drainages in the Plan Area, including Big Chico Creek, Butte Creek, and the Feather River. Spawning habitat occurs in Big Chico Creek from River Mile (RM) 13 to Bidwell Park, in Butte Creek from RM 44 to outside the Plan Area (RM 22), and in the Feather River from the Thermalito Afterbay Outlet to the Fish Barrier Dam. Adult migration habitat is located in waterways within Big Chico and Butte Creeks, Feather River, and on the Sacramento River. Juvenile migration habitat is located downstream towards the Pacific Ocean throughout all spawning and adult migration habitat in the planning area. Juvenile rearing habitat consists of all spawning and migration habitat, but can also include non-natal streams in Big Chico Creek, such as Mud, Rock, Pine, and Singer Creeks.

The Sacramento River along the western edge of the Plan Area supports upstream migration habitat for winter-run Chinook salmon moving upstream towards spawning habitat and downstream migration of juveniles moving towards the Pacific Ocean. Spawning habitat for winter-run Chinook salmon is located upstream of the Plan Area. For salmon to access this habitat and for juveniles to move downstream towards the Pacific Ocean, they must use the Sacramento River within the Plan Area as a migration corridor.

The spawning habitat of Central Valley steelhead exists in multiple waterways throughout the planning area. Spawning occurs in the planning area throughout Mud Creek, Little Chico Creek, Big Chico Creek, Little Dry Creek, Butte Creek, and the Feather River. Adult migration habitat occurs in all spawning habitat and downstream locations in the Plan Area. Juvenile rearing and migration habitat occurs throughout adult spawning and migration habitat. Some non-natal juvenile steelhead habitat exists in Rock Creek, which is a tributary to Big Chico Creek. Similar to the 2016 RTP/SCS, construction and operation of transportation projects and implementation of the land use scenario may impact Chinook salmon.

Migratory Deer

Three separate migratory deer herds occupy the eastern foothills and mountains in Butte County and depend on these areas for all or part of their habitat requirements: East Tehama, Bucks Mountain, and Mooretown. Deer that remain in a restricted area on a year -round basis are considered resident populations. Resident deer herds that occur within the County are Camp Beale and Sacramento Valley herds. Resident deer herds share the winter ranges with all of the migratory herd populations. Similar to the 2016 RTP/SCS, construction and operation of transportation projects and implementation of the land use scenario may impact these migratory deer.

Discussion

New linear transportation improvements proposed in the 2020 RTP/SCS may result in fragmentation of habitat where species can no longer easily move through an area. Impacts may occur where a linear transportation improvement includes a center barrier to be erected that may affect the ability of a smaller animal, and sometimes, less mobile species, to cross the linear transportation corridor to areas that they previously frequented. In addition, certain fence designs may be barriers to deer movement, particularly to does and fawns. Deer-proof or deer-resistant fences around large acreages in winter range and across critical deer migration corridors result in a significant adverse impact on deer populations. The creation of highways and roads also provides are a source of deer mortality.

As discussed in the 2016 RTP/SCS, implementation of projects may impact native wildlife or wildlife corridors, including those for four distinct salmon runs, steelhead, and the migratory deer. Individual projects would be designed consistent with the applicable County and City policies to ensure that appropriate design measures are incorporated into each project. However, design measures required by applicable County and City policies may not be sufficient to reduce impacts to migratory species and impacts would be potentially significant. The following mitigation measure from the 2016 RTP/SCS would ensure that all future projects are designed to facilitate the movement of sensitive species to the greatest extent feasible.

Mitigation Measures

The following mitigation measures included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects identified in Table 4.3-2. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

BIO-3 Wildlife Corridors

Prior to design approval of individual projects that contain movement habitat, the implementing agency shall incorporate economically viable design measures, as applicable and necessary, to allow wildlife or fish to move through the transportation corridor, both during construction activities and post construction. Such measures may include appropriately spaced breaks in a center barrier, or other measures that are designed to allow wildlife to move through the transportation corridor. If the project cannot be designed with these design measures (i.e., due to traffic safety, etc.) the implementing agency shall coordinate with the appropriate regulatory agency (i.e., USFWS, NMFS, CDFW) to obtain regulatory permits and implement alternative project-specific mitigation prior to any construction activities.

Significance After Mitigation

Mitigation Measures BIO-3 would assure that impacts to wildlife corridors would be less than significant because measures would ensure that all future projects are designed to facilitate the movement of sensitive species to the greatest extent feasible. Where full design mitigation is not feasible, compliance with state and federal permit requirements would offset any potential impacts associated with project implementation. Compliance with the above mitigation measure and all existing state, local and/or federal regulations would reduce impacts to a less than significant level, consistent with the findings for the 2016 RTP/SCS EIR.

Threshold: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Impact BIO-4 SIMILAR TO THE 2016 RTP/SCS, CONSTRUCTION ACTIVITIES ASSOCIATED WITH IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED IN THE 2020 RTP/SCS MAY RESULT IN THE INTRODUCTION AND SPREAD OF NOXIOUS WEEDS. MITIGATION FROM THE 2016 RTP/SCS EIR WOULD REDUCE IMPACTS TO LESS THAN SIGNIFICANT.

Construction activities associated with individual projects and the land use scenario envisioned in the 2020 RTP/SCS could introduce noxious weeds or result in their spread into currently uninfested areas, similar to the 2016 RTP/SCS. The spread of noxious weeds could result in the displacement of special status plant species and degradation of habitat for special status wildlife species. Projects in the 2020 RTP/SCS that may result in impacts from noxious weeds may include, but are not limited to, congestion relief projects, roadway safety projects, bus and pedestrian/bicycle projects such as the construction of pedestrian/bicycle trails and park -and-ride lots, and the construction of railroad crossing safety projects. Plants or seeds may be dispersed via construction equipment if appropriate measures are not implemented and result in the spread of noxious weeds.

In subsequent environmental review of Butte County transportation projects, a qualified biologist would develop a target list of noxious weeds that present a risk to the specific project area. The target list would include all A-rated weed species. Some B- and C-rated species would be included on project specific target lists if they are identified as target noxious weeds by the county agricultural commission. Weeds would also be included in target lists if they are considered to have great potential for displacing native plants and damaging natural habitats but are not considered too widespread to be controlled effectively. Noxious weeds in Butte County were not inventoried for this program-level analysis because target weeds would differ widely from project to project, depending on the sensitivity of the site to infestation, the nature of the proposed project, and the type of weeds in the immediate area. As in the 2016 RTP/SCS EIR, this impact is considered potentially significant because the introduction or spread of noxious weeds could result in a substantial reduction or elimination of species diversity or abundance.

Mitigation Measure

The following mitigation measure included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measure for applicable transportation projects identified in Table 4.3-2. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

BIO-4 Noxious Weed Survey

Prior to approval of individual projects, the implementing agency shall retain a qualified biologist determine whether noxious weeds are an issue for the project. If the biologist determines that noxious weeds are an issue, the implementing agency shall review the noxious weed list from the County Agricultural Commission, California Department of Food and Agriculture, and the California Exotic Pest Plant Council to identify target weed species for a field survey. Noxious weed infestations shall be mapped and documented. The implementing agency shall incorporate the following measures into project plans and specifications:

- Certified, weed-free, imported erosion-control materials (or rice straw in upland areas) will be used.
- The project sponsor will coordinate with the county agricultural commissioner and land management agencies to ensure that the appropriate BMPs are implemented.
- Construction supervisors and managers will be educated about noxious weed identification and the importance of controlling and preventing their spread.
- Equipment will be cleaned at designated wash stations after leaving noxious weed infestation areas.

Significance After Mitigation

Mitigation Measure BIO-4 would assure that impacts from noxious weeds would be less than significant by requiring a qualified biologist to perform a field survey to determine the presence of noxious weed infestations in the project area for individual projects. Additionally, this mitigation measure requires plans and specifications to include specific measures that reduce the likelihood of new noxious weed infestations after construction is completed. Compliance with the above mitigation measure would reduce impacts to a less than significant level, consistent with the findings for the 2016 RTP/SCS EIR.

Threshold: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact BIO-5 SIMILAR TO THE 2016 RTP/SCS, IMPLEMENTATION OF PROJECTS IN THE 2020 RTP/SCS MAY IMPACT THE BUTTE REGIONAL CONSERVATION PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH IMPLEMENTATION OF MITIGATION FROM THE 2016 RTP/SCS EIR.

The BRCP is a joint Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) currently being prepared for the western half of Butte County by BCAG under the guidance of local citizens (the Stakeholder Committee) and government officials. Participating agencies include: Butte County, Chico, Oroville, Gridley, Biggs, Western Canal Water District, Biggs West Gridley Water District, Butte Water District, Richvale Irrigation District, and Caltrans.

The BRCP is a voluntary resources protection and management tool that balances the needs of endangered and threatened species with the needs of landowners, land developers, and local and state public agencies. Such a comprehensive HCP/NCCP assures that species protection occurs on a regional level, versus local or parcel level, and it assures participating entities that once the agencies have approved the HCP/NCCP, they will not be required to accept species restrictions or financial commitments beyond those agreed to in the HCP/NCCP.

The BRCP is scheduled to be completed in late 2020. Once it is completed, the BRCP will establish a coordinated process for permitting and mitigating the incidental take of endangered species throughout the BRCP planning area. This process creates an alternative to the current project -by-project approach. Rather than individually surveying, negotiating, and securing compensatory mitigation as typically occurs through project by project mitigation, once the BRCP is in place, project proponents will receive an incidental take permit by simply paying a compensatory fee (in some cases, dedication of on-site mitigation can be an alternative to paying a fee) for use to purchase compensatory habitat lands or easements.

After the BRCP is adopted, individual projects that occur in BRCP planning area would need to be coordinated with BCAG to ensure that the project does not conflict with the BRCP. Because the BRCP is not yet adopted, there is currently no potential for conflict with this document. However, the anticipated completion date is within the implementation horizon for the 2020 RTP/SCS and there is the potential for individual projects to conflict with the BRCP. Therefore, impacts would be potentially significant, similar to the findings in the 2016 RTP/SCS.

Mitigation Measures

The following mitigation measure included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measure for applicable transportation projects. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

BIO-5 Coordinate with BCAG

Prior to design approval of individual projects, the implementing agency shall coordinate with BCAG to determine the appropriate coverage, permits, compensatory mitigation or fees, and project specific avoidance, minimization, and mitigation measures.

Significance After Mitigation

Mitigation Measure BIO-5 would assure that impacts related to project consistency with the BRCP would be less than significant by requiring coordination with BCAG. Implementation of Mitigation Measure BIO-5 would ensure that any potential for conflict is reduced to a less than significant level. It should be noted that the lead agency for the proposed project and the BRCP are the same agency (BCAG), and these planning documents were prepared to be consistent with each other. Compliance with the above mitigation measure would reduce impacts to a less than significant level, consistent with the findings for the 2016 RTP/SCS EIR.

d. Specific 2020 RTP/SCS Projects That May Result in Impacts

Individual projects could create significant impacts related to biological resources but would not necessarily do so. Additional specific analysis will need to be conducted as the individual projects are implemented in order to determine the actual magnitude of impact. Mitigation measures discussed above could apply to these specific projects for biological resources. RTP projects that require ground disturbance on undisturbed land have the potential to impact biological resources including sensitive habitats, sensitive species, and wildlife movement corridors. Table 4.3-2 lists representative projects included in the 2020 RTP/SCS that have the potential to impact biological resources and were not previously evaluated in the 2016 RTP/SCS EIR.

Table 4.3-2 2020 RTP/SCS Projects that May Result in Biological Resource Impacts

Implementing Agency	Title	Project Description	Project Type
Butte County	Autrey Lane and Monte Vista Safe Routes to Schools Gap Closure Project	Curb, gutter, sidewalk, and crossing enhancements along Autrey Lane and Monte Vista Avenue. On Autrey Lane from Las Plumas to Monte Vista and along Monte Vista from Autrey Lane to Lincoln Boulevard.	Bicycle & Pedestrian
Butte County	Monte Vista & Lower Wyandotte Class II Bike Project	Construct Class II bike facilities along Monte Vista Ave and Lincoln Blvd to Lower Wyandotte Rd in locations that do not have existing curb, gutter and sidewalks, along with Class II bike facilities along Lower Wyandotte Rd from Las Plumas Ave/Oro Bangor Hwy to Monte Vista Ave. From Lincoln Blvd along Monte Vista to Lower Wyandotte and up Lower Wyandotte from Monte Vista to Las Plumas.	Bicycle & Pedestrian
Butte County	Palermo/South Oroville SRTS Project, Phase 3	Design Curb, gutter, sidewalk, and crossing enhancements along Lincoln Blvd, Palermo Rd, and Baldwin Ave in locations that do not have existing curb, gutter, and sidewalks. From Hewitt Ave from Palermo Rd up to Baldwin Ave. Along Baldwin Ave from Hewitt to Lincoln Blvd. Down Lincoln Blvd from Baldwin Ave to Palermo Rd. Also, on Palermo Rd from Lincoln to Palermo Middle School	Bicycle & Pedestrian
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Road over Tributary to Little Chico Creek west of River Road. Construct a new 2-lane bridge to replace the existing 2-lane low water crossings. Bridge No. 00L0092.	Maintenance
Butte County	Local Highway Bridge Program (HBP Grouped)	Midway Rd over Butte Creek, 0.3 mile south of White Drive and Midway over Butte Creek Overflow, 3.9 mile north of Nelson Rd. Replace two existing structurally deficient 2-lane bridges with a new 2-lane bridge. Bridge No. 12C0052 & 12C0053.	Maintenance
Butte County	Local Highway Bridge Program (HBP Grouped)	E Rio Bonito Rd. over Hamilton Slough 0.2 mile east of SR 99. Replace the existing functionally obsolete 2-lane bridge with a new 2-lane bridge. Bridge No. 12C0164.	Maintenance
Butte County	Local Highway Bridge Program (HBP Grouped)	E Rio Bonito Rd over Sutter-Butte Canal 0.8 mile east of SR 99. Replace the existing 2-lane structurally deficient bridge with a new 2-lane bridge. Bridge No. 12C0165.	Maintenance
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Rd. over Little Chico Creek, 1 mile east of River Rd. Replace the existing 2-lane structurally deficient bridge with a new 2-lane bridge. Bridge No. 12C0242.	Maintenance
Butte County	Central House Rd Over Wymann Ravine Bridge	Located at 0.2 miles east of SR 70. Scope is to replace the existing 1 lane structurally deficient bridge with a new 2-lane bridge. Bridge No: 12C011	Safety
Butte County	Local Highway Bridge Program (HBP Grouped)	Skyway Westbound at Butte Creek	Bridge Replacement

Implementing Agency	Title	Project Description	Project Type
Butte County	Local Highway Bridge Program (HBP Grouped)	Cana Hwy at Pine Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Afton Rd at Butte Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Cana Pine Creek Rd at Pine Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Mesa Rd at Durham Mutual Irrigation Canal	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Dunstone Dr at Lower Honcut Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Lower Wyandotte at Wyman Ravine	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Rd at The Dips	Low Water Crossing
Butte County	Local Highway Bridge Program (HBP Grouped)	Keefer Rd at Keefer Slough	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Oro-Bangor Hwy at North Fork Honcut Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Oro-Bangor Hwy at Branch Rocky Honcut Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Bradford Rd at Little Dry Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	River Rd at Shady Oaks Slough	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	River Rd at Grassy Banks Slough	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Swedes Flat Rd at Rocky Honcut Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Neal Rd at Nance Canyon	Bridge Replacement
Caltrans	SR 99 Bridge Scour Mitigation	SR 99 near Richvale, at Cottonwood Creek Bridge No. 12-0120, from 0.3 mile south to 0.5 mile north of Nelson Avenue. Replace and realign scour-critical bridge. (EA 0F290)	Maintenance
Caltrans	SR 70 Permanent Restoration	SR 70 near Paradise, from 0.8 mile west to 0.2 mile east of Shady Rest Area. Restore and repair damaged roadway by raising the existing vertical alignment by approximately 5 feet and protecting the embankment against future flooding with Rock Slope Protection (RSP) or a retaining structure. (EA 3H540)	Safety
Caltrans	SR 70 Roadside Enhancement	SR 70 in Butte County, on Route 70 at approximately 7.0 miles south of Oroville; also in Colusa County on Route 20 at approximately 4.0 miles east of Colusa. Advance mitigation credit purchases for future SHOPP construction projects expected to impact sensitive habitats. (EA 2H140)	Maintenance

Implementing Agency	Title	Project Description	Project Type
Caltrans	SR 162 Safety Improvements	SR 162 in and near Oroville, from Foothill Boulevard to the Gold Country Casino entrance. Construct two-way left-turn lane and widen shoulders. (EA 2H630)	Safety
Caltrans	SR 32 Safety Improvements	SR 32 in Chico, from West Sacramento Avenue (East) to West Sacramento Avenue (West). Construct two roundabouts. (EA 2H240)	Safety
Caltrans	SR 70 Passing Lanes (Segment 1)	SR 70 from 0.1 mile south of Palermo Road, to just north of Ophir Road/Pacific Heights intersection. SHOPP Safety Only. Add center turn lane and 8-foot shoulders. (EA 3H71U)	Safety
Caltrans	SR 70 Passing Lanes (Segment 1)	SR 70 from 0.1 mile south of Palermo Road, to just north of Ophir Road/Pacific Heights intersection. Widen from 2 lanes to 4 lanes. (EA 3H71U). Capacity increasing portion only.	Capacity
Caltrans	SR 70 Passing Lanes (Segment 2)	SR 70 from Cox Lane to 0.1 mile south of Palermo Road. Widen from 2 lanes to 4 lanes. (EA 3F281 & 3H720)	Safety
Caltrans	SR 70 Passing Lanes (Segment 2)	SR 70 from Cox Lane to 0.1 mile south of Palermo Road. Widen from 2 lanes to 4 lanes. (EA 3F281 & 3H720)	Capacity
Caltrans	SR 70 Passing Lanes (Segment 3)	SR 70 from 0.4 mile South or East of Gridley Road to 0.3 mile South of Butte/Yuba County line. Widen from 2 lanes to 4 lanes. (EA 3H930 & 3F282)	Safety
Caltrans	SR 70 Passing Lanes (Segment 3)	SR 70 from 0.4-mile South or East of Gridley Road to 0.3 mile South of Butte/Yuba County line. Widen from 2 lanes to 4 lanes. (EA 3H930 & 3F282)	Capacity
Caltrans	SR 32 ADA Curb Ramps	SR 32 in Chico, from Walnut Street to Poplar Street. Upgrade Americans with Disabilities Act (ADA) facilities. (EA 4F800)	Safety – Bicycle & Pedestrian
Caltrans	SR 32 Safety Improvements	SR 32 in Butte County on Route 32 from 0.3 mile east of Glenn/Butte County line to Muir Ave. Safety improvements. (EA 4H880)	Safety
Caltrans	SR 32 Pavement Rehab	SR 32 in and near Chico on Route 32 from Muir Ave to Route 99. Upgrade pavement, add new lighting, add new signal, and replace drainage systems. (EA 4H760)	Maintenance
Caltrans	SR 99 Pavement Rehab	SR 99 in Butte County in Gridley from West Liberty Road to Chico San Drive. Pavement rehab, upgrade curb ramps, drainage systems, and install fiber optics. (EA 1H140)	Maintenance
Caltrans	SR 191 Permanent Restoration	SR 191 in Butte County on Route 191 from 0.7 mile south of Paradise Dump Rd to 0.3 mile south of Old Clark Rd. Cut back existing slopes. (SHOPP ID 21899)	Safety
Caltrans	SR 32 Permanent Restoration	SR 32 in Butte County on Route 32, 0.9 mile east of Addison Rd. Soldier pile wall. (SHOPP ID 21796)	Safety

Implementing Agency	Title	Project Description	Project Type
Caltrans	SR 70 Permanent Restoration	SR 70 in Butte County on Route 70 at various locations. Drainage systems. (SHOPP ID 21798)	Safety
Caltrans	SR 70 Pavement Rehab	SR 70 in Butte County on Route 70 from 0.6 mile east of Big Ben Rd to Plumas County line. Roadway preservation (CAPM) and drainage improvements. (SHOPP ID 20496)	Maintenance
Chico	Esplanade Corridor Safety and Accessibility Improvement Project	Project includes various non-motorized "complete streets" improvements along the Esplanade Corridor from W. 11th Avenue to Memorial Avenue. Improvements are both on Esplanade and Oleander.	Bicycle & Pedestrian
Chico	Little Chico Creek Pedestrian/Bicycle Bridge Connection at Community Park Project	Just south of Humboldt Rd, west of SR 99. Project entails new bridge connector over Little Chico Creek into the north side of 20th Street Park.	Bicycle & Pedestrian
Chico	SR 99 Bikeway Phase 4 Improvements	Business Lane along the east side of SR 99 corridor to the Skyway northbound on-ramp. Project is to construct a new Class 1 Bikeway Project.	Bicycle & Pedestrian
Chico	SR 99 Corridor Bikeway Phase 5 - 20th Street Crossing	SR 99 Corridor Bikeway Project Phase 5 completes the gap adjacent to SR 99 from Chico Mall across 20th Street to the south end of Business Lane. Scope of project is develop a new bicycle and pedestrian crossing (bridge) over 20th Street in Chico.	Bicycle & Pedestrian
Chico	Bruce Rd Bridge Replacement Project	In Chico 0.5 miles south of Humboldt Rd on Bruce Road over Little Chico Creek. Project includes replacement of an existing 2-lane functionally obsolete bridge with a new 4-lane bridge including reconstruction of bridge approaches. New bridge incorporates a Class I bicycle facility	Capacity Increasing
Chico	Local Highway Bridge Program (HBP Grouped)	Vallombrosa Ave. at Big Chico Creek between 1st St and Memorial Way. Scope of the work includes rock slope protection (RSP) and scour mitigation	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Park Ave. at Little Chico Creek, 0.1 mile north of 11th Street. Scope of the work includes RSP and scour mitigation	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Warner St. at Big Chico Creek between 1st St and Legion Ave. Scope of the work includes RSP and scour mitigation, joint seal	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Bruce Rd. at S Fork Dead Horse Slough, just north of SR 32. Scope of the work includes RSP and scour mitigation	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	E. 5th Ave. at Lindo Channel, at E. Lindo Ave. Scope of the work includes RSP, scour mitigation and Methacrylate Deck treatment	Maintenance

Implementing Agency	Title	Project Description	Project Type
Chico	Local Highway Bridge Program (HBP Grouped)	Cypress St. at Little Chico Creek between Humboldt Ave and 12th St. Scope of the work includes RSP, scour mitigation and Methacrylate Deck treatment	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Main St. at Big Chico Creek, 0.15 mile north of 2nd St. Scope of work includes joint seals	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Walnut St. at Little Chico Creek between Dayton Rd and 9th St. Scope of the work includes RSP, scour mitigation and Methacrylate Deck treatment	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Broadway St. at Little Chico Creek just south of 9th St. Scope of work includes AC deck removal Methacrylate Deck treatment, wingwall and backwall repairs	Maintenance
Chico	Highway Safety Improvement Program (HSIP Grouped)	At the intersection at SR-99 NB On-Off Ramps/ Eaton Road/Hicks Lane. Scope is to construct a 5-leg roundabout intersection with adequate bike and pedestrian access. H8-03-003	Safety
Chico	Highway Safety Improvement Program (HSIP Grouped)	In Chico on Walnut St between W 1st St and W 9th St. Scope: Walnut Street (SR32) from 1st to 4th (Buffered Bike lanes); continue from 5th through 9th Street (Buffered Bike lane and vehicle lane transition striping only); intersections of 1st, 3rd, and 5th (new signal hardware). HSIP7-03-001	Safety
Chico	Local Highway Bridge Program (HBP Grouped)	Ivy St. over Little Chico Creek between 9th & 11th Streets. Rehabilitate and widen the existing 2-lane bridge to a full width 2 lanes with shoulders. Bridge No. 12C0279	Safety
Chico	Local Highway Bridge Program (HBP Grouped)	Pomona Rd. over Little Chico Creek, 0.4 mile south east of Miller Ave. Replace the existing 2-lane bridge, without adding lane capacity. Bridge No. 12C0328, Project #5037(024), 5037(036).	Safety
Chico	Local Highway Bridge Program (HBP Grouped)	Salem St. over Little Chico Creek, 0.1 mile north of 10th St. Rehabilitate functionally obsolete 2-lane bridge. No Added Lane capacity. Bridge No. 12C0336.)	Safety
Chico	Guynn Rd over Lindo Channel Bridge Project	Project is located just north of W Lindo Ave. Replace the existing 1 lane structurally deficient bridge with a new 2-lane bridge. Bridge No 12C0066.	Safety
Chico	Bruce Rd. Widening	From Skyway to SR 32, widen Roadway (Bridge included as separate project).	Capacity
Chico	Commerce Court Connection	From Ivy St. to Park Ave. connect existing Commerce Ct to Park Ave. via Westfield Ln.	Capacity New
Chico	E. 20th Street Widening	From Forest Ave. to Bruce Rd. Widen from 1 lane per direction to 2 lanes per direction with median.	Capacity New

Implementing Agency	Title	Project Description	Project Type
Chico	Eaton Rd Widening	From Hicks Ln. to Cohasset Rd. Widen and extend to 4 lanes with median and new bridge at Sycamore Creek Tributary	Capacity New
Chico	Eaton Rd Widening	From Cohasset Rd to Manzanita Ave. Widen to 4 lanes with median	Capacity New
Chico	Esplanade Widening	Shasta Ave to Nord Highway. Widen to 4 lanes with median	Capacity New
Chico	Mariposa Ave Connection	From Glenshire Ln. to Eaton Rd., add new arterial connection. 1 lane per direction	Capacity New
Chico	Notre Dame Boulevard Connection	Construct new bridge at Little Chico Creek	Capacity New
Chico	Midway Widening	From Hagan Lane to Park Ave. Widen road from 2 lanes to 4 lanes with a median.	Capacity
Chico	Skyway Capacity Improvements	From SR 99 to Bruce Rd. Corridor Capacity enhancements	Maintenance and Operations
Chico	Eaton Rd/ Floral Ave	2-lane roundabout	Maintenance and Operations
Chico	Eaton Rd/ Ceanothus Ave	1-lane roundabout	Maintenance and Operations
Chico	Cohasset Rd Widening	Widen roadway to include left turn lanes and flatten curves between and including Airpark Blvd., and Two Oaks Dr.	Maintenance and Operations
Gridley	Central Gridley Pedestrian Connectivity and Equal Access Project	Install ADA curb ramps and detectable warning surfaces, close sidewalk gaps, and striping crosswalks along Sycamore, Magnolia, Indiana, and Vermont Sts. in the central blocks of Gridley	Bicycle & Pedestrian
Gridley	Gridley Bike & Pedestrian SR 99 Corridor Facility Project	In the City of Gridley, improvements entail installing ADA curb ramps and detectable warning surfaces, striping crosswalks, and Class I bike path along SR 99 from Township Rd. to Archer Ave.	Bicycle & Pedestrian
Oroville	SR 162 Pedestrian/Bicycle Disabled Mobility and Safety Improvements Project	Hwy 162 in Oroville, CA between Feather River Boulevard and Foothill Blvd. The project includes a comprehensive set of active transportation infrastructure connectivity and safety improvements.	Bicycle & Pedestrian
Paradise	Oliver Curve Class I Phase I Project	Oliver Rd. between Skyway and Valley View Dr. (approximately 0.39 miles). Along Oliver Rd., construct a grade separated, Class I, bike-ped facility along the west side of Oliver Rd within the project limits. This project is a proactive safety effort to protect bicyclists and pedestrians along a heavily traveled corridor around a horizontal curve. In this location, the many daily bicyclists and pedestrians are forced to walk the edge line, causing vehicles to swerve into oncoming traffic	Bicycle & Pedestrian

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Implementing Agency	Title	Project Description	Project Type
Paradise	Paradise ATP Gateway Project	Neal Rd. between Town Limits and Skyway (1.62 miles), Skyway between Neal Rd. and Pearson Rd. (0.9 miles). Along Neal Rd., construct a grade separated, Class I, bike-ped facility along the west side of Neal Rd. within the project limits. This component will tie into Butte County Class II Bike Lanes which terminate at Town Limits, bringing both novice and experienced bicyclists and pedestrians to existing the 5-mile Class I facility at the Neal/Skyway intersection. Along Skyway, infill all missing sidewalks to connect to area resources and government facilities	Bicycle & Pedestrian
Paradise	Pentz Road Trailway Phase II Project	Pentz Rd. between Pearson Rd. and Bille Rd. (1.63 miles), Pentz Rd. between Wagstaff Rd. and Skyway (1.56 miles). Scope of the project is to construct a grade separated, Class I, bike-ped facility along the west side of Pentz Rd. within the project limits. This project will tie into funded improvements between Bille Rd. and Wagstaff Rd., scheduled for completion summer 2019	Bicycle & Pedestrian
Paradise	Lower Pentz Pathway Project	Construct Class 1 paths along Pentz Rd. from Bille to Pearson Rds.	Safety - Bicycle & Pedestrian
Paradise	Upper Pentz Road Pathway Project	Construct Class 1 paths along Pentz Rd. from Wagstaff to Skyway	Safety - Bicycle & Pedestrian
Paradise	Pearson/Sawmill Intersection Improvements	Install crosswalks and potential intersection control at the Pearson Rd. Sawmill intersection	Safety

Source: BCAG 2020 RTP/SCS project list

4.4 Cultural and Paleontological Resources

This section analyzes impacts related to cultural and paleontological resources in the Plan Area.

4.4.1 Setting

a. Prehistoric Background

The initial evidence for human activity in the area east of the crest of the Sierra Nevada began sometime from approximately 11,500 to 7,000 years before present in a period with moist conditions and cooler temperatures. From 7000 to 3500 years before present the climate became warmer and drier. Seed processing tools made their first appearance in the archeological collection during this period as did the basic tool production technology that characterized the cultural remains up until the time of historic contact. Between 4,200 to 1,500 years before present, the moisture availability and human population increased. The populations during this time apparently fully exploited their resource base and the use of the higher elevation areas is thought to have greatly increased.

From 1500 years before present to historic times, new forms of ground stone artifacts, the introduction of the bow and arrow technology and a general increase in the exploitation of all parts of the environment occurred. The emphasis of resource collection was on seeds and small game with a lesser emphasis on hunting large game. Population densities during this period are thought to have been lower when compared to the previous 2,000 years.

The trend in prehistoric times has been toward increased diversity in utilized resources, greater dependence on lower ranked resources, and increased intensity of resource exploitation. Over time plant food gathering and tool processing became more elaborate, while flaked stone tools grew simpler and exhibited less stylistic elaboration.

b. Historic Background

Among the initial penetrations of the upper Sacramento Valley region by Europeans was that of the Spanish explorer Gabriel Moraga, who in 1808, explored the lower reaches of Feather River, perhaps as far north as Sutter Buttes. In 1820, Captain Luis Arguello led an expedition into the foothills east of Oroville, and gave the Feather River its name (Fariss and Smith 1882:144 -145). By 1828, and throughout the next two decades, Hudson's Bay Company and American Fur Company trappers were active within the region (Wells and Chambers 1973:128).

In 1844, Mexican Governor Manuel Micheltoarena issued several land grants within northern California, including portions of what would later become Butte County. Peter Lassen was awarded a grant on Deer Creek, part of which extended into northern Butte County. That same year, Edward A. Farwell and Thomas Fallon settled on the Farwell grant, the eastern boundary of which cuts through present-day Chico, and Samuel Neal occupied the Esquon Grant, encompassing the modern hamlets of Durham and Nelson. In 1847, grantee John Bidwell settled on his famous estate in Chico. Neal and Bidwell in particular were instrumental in establishing the agricultural and livestock industries in the county, and they both made important gold discoveries as well (McGie 1982:35-37; Talbitzer 1987:21-24; Wells and Chambers 1973:128-129).

Butte County was incorporated on February 18, 1850 by an act of the newly commissioned state legislature. The original Butte County embraced all of present-day Butte and Plumas Counties along

with portions of Lassen, Tehama, Sutter, and Colusa Counties (Wells and Chambers 1973:131). By 1853, when farms and settlements began to appear in some of the county's more remote regions, it became evident that the area was too large for the Butte County government to meet growing demands for roads, schools, law and order. Thus, beginning with Plumas County on March 18, 1854, areas within the original Butte County configuration began to be incorporated as separate counties (Fariss and Smith 1882:156-157).

The agricultural value of the land was soon recognized, and large tracts of land were claimed by permanent settlers. The region in the low foothills was originally claimed by a number of individuals who attempted to make a living by farming and ranching. It was soon discovered that the long dry period between May and October with no rainfall caused the grasses to dry off, leaving the land useless for grazing livestock except in the winter and spring. Cattle and sheep ranchers were forced to move their herds to the mountains to a summer range. This was not cost - efficient except for landowners who had large tracts of land at the lower elevations to support large herds that could be moved seasonally. As a result, many sold their small tracts to their neighbors and moved on to other pursuits, with some families amassing thousands of acres in the region for their cattle and sheep. Other lands were discovered to be productive for orchards and vineyards. Agriculture continues to be an important industry in the region. Lumbering was also an important industry in the County. There were a number of sawmills in the County, with shipping of the milled lumber first by railroad, and later by truck.

c. Ethnographic Background

The Konkow, the neighboring Maidu to the east, and the Nisenan to the south all spoke Maiduan languages belonging to the Penutian superstock. Within the Konkow language, several dialects were spoken. The distribution of these dialectical groups was, in part, along the lower part of the Feather River Canyon, extending up to about the Rich Bar area. Others of the related groups held the Middle and South Fork Feather River drainages, extending westward onto the Sacramento Valley floor, immediately adjoining the lower foothill courses of these streams (Kroeber 1925:392; Riddell 1978:370).

Above the Central Valley and the gently-sloped lower Sierran foothills, the rivers have incised deep narrow canyons that are, at times, nearly inaccessible. By preference, the Konkow settlements were situated on ridges overlooking the rivers. Generally, selection was preferential towards ridge crest flats or midslope terraces (Dixon 1905:175).

The settlement pattern of the Konkow crossed multiple topographic and corresponding vegetation zones. It is unlikely that any one village had access to more than one or two biotic zones, but the cumulative territorial holdings included the Montane Forest, Montane Chaparral, Riparian Woodland, Valley and Foothill Woodland Chaparral and Valley Grassland (Ornduff 1974). The pattern of "village communities" (Kroeber 1925:398) constituted the only political organization. A community was comprised of several geographically-related villages with one maintaining a large semi-subterranean ceremonial lodge (Riddell 1978:373). Each village community held a known territory in which all community members had hunting and fishing rights. The Konkow had less well-defined territorial boundaries than did the Maidu (Kroeber 1925:398; Riddell 1978:373).

The Konkow followed a seasonal pattern of transhumance, leaving the winter villages to travel higher into the mountains during the late spring and summer. Hunting of the migrating deer was major occupation in these seasons. The Indians exploited a wide array of wild vegetable foods that included pine nuts, seeds, roots, berries, greens and bulbs. The acorn provided the dietary staple as

it did for most California Indian groups. The nuts of three species – black oak, golden oak and interior live oak – were preferred above all others (Riddell 1978:374).

There were three dwellings constructed by the people, with use of these types related to the season. Winter structures were of two kinds: a semi-subterranean earth-covered lodge and a smaller, conical, bark slab dwelling. The summer houses were informal, wall-less shades constructed of upright poles supporting a roof of branches and leaves.

Trade was well developed in an interlocking system, with neighboring groups such as the Maidu, Achumawi, and Wintuans. The exchange system brought desired goods into the Konkow groups while they supplied food stuffs, hides, arrows, and bows to their trading partners (Riddell 1978:380; Kroeber 1925).

The Konkow were almost decimated in 1833 by an epidemic of what may have been malaria (Cook 1955:322). In 1849, the onslaught of the gold miners completed the destruction of the Konkow lifeway. The miners penetrated to the most remote corners of the Konkow and Maidu lands with a consequent near total population displacement. The environmental balance was distorted by the whites, and the primary food sources were no longer easily available to the Indians. As a result, the starving Native Americans were forced to kill domestic livestock in order to survive. The white community responded in an often excessive manner and many innocent native people were killed. In 1863, the forced relocation of many surviving Indians to Round Valley Reservation brought the hostilities under control. By 1870, the Indian resistance was virtually over (Riddell 1978:385).

The Mechoopda in the Chico area were somewhat more fortunate, thanks largely to John Bidwell, who had employed many native Mechoopda and Konkow in his gold mining operations at nearby Bidwell Bar, shortly after the discovery of gold at Coloma. The Mechoopda Band of Konkow returned with Bidwell to his new residence at Rancho Chico where they were employed as laborers. The Mechoopda lived adjacent to Bidwell's home (cabin, adobe structure, and finally mansion) until being relocated to a nearby area so that they would have more room (and due to all-night cry ceremonies behind the mansion that were disturbing to Bidwell's new wife, Annie). It is uncertain as to whether the "Indian village" shown on a map drawn by Bidwell in 1867 pre or post-dated Bidwell's arrival in the area (White in White et al. 2002:4). In general, thanks to Bidwell's protection and employment, the Mechoopda were spared the forced relocation to the Round Valley Reservation in 1863 and continued to practice many traditional cultural lifeways well into the 20th century.

d. Existing Cultural and Historic Resources

There are over three thousand cultural resources identified within Butte County that have been assigned primary identification numbers according to the Northeast Information Center. These includes cultural resources that are assigned primary numbers only (isolated artifacts, resources that lack complete documentation, State Landmarks) and those resources that are more comprehensive in nature and have been documented to standards established by the Office of Historic Preservation. This second category receives both a permanent and primary number.

Site types present, or expected to exist, within Butte County include prehistoric period occupation areas (both short and long term), burial areas, ceremonial areas, resource collection and processing sites, lithic scatters, quarries, rock art sites, trails, and isolated examples of prehistoric period artifacts.

For the historic period, cultural resources may include post-contact Native American occupation and ceremonial areas, trails, roads, railroads, small and large-scale mining features, logging features,

occupation areas (short and long term), buildings, structures, water conveyance features (ditches), quarries, trash dumps, and cemeteries.

In general, prehistoric period cultural resources were situated in the most favored environmental settings—areas adjacent to permanent water sources with relatively level topography. This is also true of most historic period resources, with the exception of mining related features and settlements where the discovery of a mineral deposit did not always correspond with a favored environmental setting. It is important to note that lower sensitivity area could still contain resources, and the review of all areas proposed for impact should always be indicated.

There are four Native American Rancherias present in Butte County. These include Berry Creek Rancheria, Enterprise Rancheria, and Mooretown Rancheria all located in the Oroville area, and the Chico Rancheria located in the Chico area. A search of the Native American Heritage Commission Sacred Land File revealed that there are Native American cultural resources within the Plan Area. Such resources are exempt from public disclosure. The Native American Heritage Commission provided contacts from the following Native American organizations for use during consultations: Berry Creek Rancheria of Maidu Indians, Enterprise Rancheria of Maidu Indians, Mooretown Rancheria of Maidu Indians, Mechoopda Indian Tribe of Chico Rancheria, Greenville Rancheria of Maidu (from Tehama County), Maidu Nation, Butte Tribal Council, Maidu Cultural and Development Group, KonKow Band of Maidu, and Tsi-Akim Maidu.

Table 4.4-1 and Table 4.4-2 provide a list of various historical resources in Butte County. No updates have been made to the National Register of Historic Places (NRHP) since 2016, therefore NRHP resources are not show in a table below. Table 4.4-1 contains a list of California specific historical landmarks in the County. Table 4.4-2 lists in-service bridges in the Caltrans Bridge Inventory that may have historical significance and might be eligible for inclusion in the National Register of Historic Places (NRHP), pending further evaluation.

Table 4.4-1 California Historical Landmarks in Butte County

Reference Number	Location	Resource Name	Address
313	Chico	Hooker Oak Tree	Bidwell Park, Hooker Oak Recreation Area, Manzanita Ave between Vallombrosa and Hooker Oak Ave, Chico
314	Oroville	Old Suspension Bridge	Lake Oroville State Recreation Area, Bidwell Canyon, Bidwell Canyon Rd, Oroville
329	Chico	Rancho Chico And Bidwell Adobe	Bidwell Mansion State Historic Park, 525 The Esplanade, Chico
330	Oroville	Bidwell’s Bar	Lake Oroville State Recreation Area, Bidwell Canyon, Bidwell Canyon Rd, Oroville
770	Oroville	Chinese Temple	1500 Broderick St, Oroville
771	Magalia	Dogtown Nugget Discovery Site	0.3 mi N of Pentz-Magalia Rd on Skyway, Magalia
807	Oroville	Oregon City	Diggins Dr between Oroville and Cherokee
809	Oroville	Discovery Site of the Last Yahi Indian	2547 Oroville-Quincy Hwy at Oak Ave, Oroville
840-2	Chico	Chico Forestry Station And Nursery	Bidwell Nature Center, Cedar Grove Picnic Area, Cedar Grove and E 8th, Bidwell Park, Chico
1043	Oroville	Mother Orange Tree of Butte County	400 Glen Drive, Oroville

Source: California Office of Historic Preservation, 2020

Table 4.4-2 Caltrans Historic Bridge Inventory

Bridge Number	Bridge Name	Location	Historical Significance	Year Built
Local Agency Bridges				
12C0104	Keefer Slough	1.41 mi N. State Hwy. 99E	4. Historical Significance not determined	1992
12C0146	Drainage Canal	0.5 mi N. Colusa Hwy.	4. Historical Significance not determined	1991
12C0194	Camp Creek	3.3 Camp Crk. & 2.4 Dixie	4. Historical Significance not determined	1925
12C0285	Myers Street Up	N. Baldwin Ave.	4. Historical Significance not determined	1924
12C0286	Lincoln Street Up	Just N. Mitchell Ave.	4. Historical Significance not determined	1924
State Agency Bridges				
12 0038	North Fork Feather River	03-BUT-070-40.99	2. Bridge is eligible for NRHP	1932
12 0039	Bear Creek	03-BUT-070-46.44	4. Historical Significance not determined	1936
12 0109	Arch Rock Tunnel	03-BUT-070-47.15	2. Bridge is eligible for NRHP	1937
12 0134	W. Br. Feather River (Lake Oroville)	03-BUT-070-28.22	2. Bridge is eligible for NRHP	1962
12 0169L	East 20th Street OC	CHC 03-BUT-099-R31.50	4. Historical Significance not determined	1993

Historic Significance Designations

1 Listed on the National Register of Historic Places

2 Eligible for National Register listing

3 May be eligible for National Register listing

4 Unevaluated. (Generally, Category 4 bridges constructed before 1960 are associated with properties that have not yet been evaluated, such as railroads, canals, or potentially eligible historic roads.)

5 Ineligible for National Register listing

Source: Caltrans Historic Bridge Inventory website 2019

e. Paleontological Resources

Paleontology is a branch of geology that studies prehistoric life forms other than humans, through the study of plant and animal fossils. Paleontological resources are fossilized remains of organisms that lived in the region in the geologic past and therefore preserve an aspect of the County’s prehistory which is important in understanding the development of the region as a whole, as many of these species are now extinct. Like archaeological sites and objects (which pertain to human occupation), paleontological sites and fossils are non-renewable resources. They are found primarily in sedimentary rock deposits and are most easily found in regions that may have been uplifted and eroded, but they may also be found anywhere that subsurface excavation is being carried out (e.g., streambeds, under roads).

Fossils and Their Associated Formations

Geologic formations are the matrix in which most fossils are found, occasionally in buried paleosols (ancient soils). These formations are totally different from modern soils and cannot be correlated with soil maps that depict modern surface soils representing only a thin veneer on the surface of the earth. Geologic formations may range in thickness from a few feet to hundreds of thousands of feet, and form complex relationships below the surface. Geologic maps (available through the U.S. Geological Survey [USGS] or California Geological Survey) show the surface expression (in two dimensions) of geologic formations along with other geologic features such as faults, folds, and landslides. Although sedimentary formations were initially deposited one atop the other, much like

a layer cake, over time the layers have been squeezed, tilted, folded, cut by faults and vertically and horizontally displaced, so that today, any one rock unit does not usually extend in a simple horizontal layer. If a sensitive formation bearing fossils can be found at the surface in an outcrop, chances are that same formation may extend not only many feet into the ground straight down, it may well extend for miles just below the surface.

Determining Paleontological Potential

The most general paleontological information can be obtained from geologic maps, but geologic cross sections (slices of the layer cake to view the third dimension) must be reviewed for each area in question. These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not usually distributed uniformly throughout the many square miles the formation may cover. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils. The exact locations are considered proprietary and therefore not presented in CEQA documents (to prevent the removal or destruction of these important, nonrenewable resources).

f. Regulatory Setting

A cultural resource may be designated as significant by national, state, or local authorities. In order for a resource to qualify for listing in the NHRP or the California Register of Historical Resources (CRHR), it must meet one or more identified criteria of significance. Resources may qualify for NRHP listing if one or more of the following criteria are met:

- 1) The resource is associated with events that have made a significant contribution to the broad patterns of our history.
- 2) The resource is associated with the lives of persons important in our past.
- 3) The resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- 4) The resource has yielded, or may be likely to yield, information important in prehistory or history.

4.4.2 Impact Analysis

a. Methodology and Significance Thresholds

Pursuant to the *CEQA Guidelines*, potentially significant impacts to cultural resources would result if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5;
- Cause a substantial adverse change in the significant of an archaeological resource pursuant to § 15064.5; and
- Disturb any human remains, including those interred outside of formal cemeteries

This SEIR augments the previously certified EIR for the 2016 RTP/SCS and analyzes only the changes in the 2016 RTP/SCS or changes in circumstances under which the 2020 RTP/SCS projects would be implemented since certification of the previous 2016 EIR. Therefore, for issue areas where impacts would be similar to or less than the impact level identified in the previous 2016 EIR, no further analysis is warranted.

According to the *CEQA Guidelines* § 15126.4(b)(3) public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature. The following factors shall be considered for a project involving such an archaeological site:

- A. Preservation in place (avoidance) is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.
- B. Preservation in place may be accomplished by, but is not limited to, the following:
 - Planning construction to avoid archaeological sites.
 - Incorporation of sites within parks, greenspace, or other open space.
 - Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site.
 - Deeding the site into a permanent conservation easement.
- C. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Archaeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code.
- D. Data recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the determination is documented and that the studies are deposited with the California Historical Resources Regional Information Center.

In December 2018, *CEQA Guidelines* were revised and analysis of paleontological resources was moved from Cultural Resources to be analyzed as part of Geology and Soils discussion. However, for consistency with the 2016 RTP/SCS EIR the paleontological resources analysis is included here with the analysis of Cultural Resources.

b. Project Impacts and Mitigation Measures

Threshold:	Would the project cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?
Threshold:	Would the project cause a substantial adverse change in the significant of an archaeological resource pursuant to § 15064.5?
Threshold:	Would the project cause disturb any human remains, including those interred outside of formal cemeteries?

Impact CUL-1 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE 2020 RTP/SCS COULD DISTURB KNOWN AND UNKNOWN CULTURAL RESOURCES, RELATIVE TO THE 2020 RTP/SCS. IMPACTS TO ARCHAEOLOGICAL AND PALEONTOLOGICAL RESOURCES WOULD REMAIN SIGNIFICANT BUT MITIGABLE AND IMPACTS TO HISTORICAL RESOURCES WOULD REMAIN SIGNIFICANT AND UNAVOIDABLE.

Archaeological and Paleontological Resources

It is known that paleontological resources and archaeological resources are present throughout Butte County. Due to the programmatic nature of the 2020 RTP/SCS, a precise, project-level analysis of the specific impacts to archaeological and paleontological resources for each RTP project is not possible at this time. However as discussed in the 2016 RTP/SCS EIR, it is possible to encounter known and unknown archaeological and paleontological resources as a result of implementation of transportation improvement projects pursuant to the 2020 RTP/SCS. Similar to the 2016 RTP/SCS many of the improvements proposed under the 2020 RTP/SCS consist of minor expansions of existing facilities that would not involve construction in previously undisturbed areas. However, depending on the location and extent of the proposed improvement and ground disturbance, known and/or unknown cultural resources could be impacted. Representative new projects in the 2020 RTP/SCS that may disrupt previously undisturbed areas are listed in Table 4.4-3. The projects listed in this table were chosen based on potential to include new infrastructure. It is possible that some of the proposed roadway or bridge widening or extension projects, beyond those listed in Table 4.4-3 would adversely impact archaeological and paleontological resources. In particular, construction activities may disturb the resources, thereby exposing them to potential vandalism, or causing them to be displaced from the original context and integrity. Specific analysis will be required as individual projects are implemented. Therefore, impacts to archaeological and paleontological resources would be potentially significant.

Historic Resources

With regard to known significant historic resources, the location and nature of the new projects proposed in 2020 RTP/SCS listed in Section 2.0, *Project Description*, were evaluated relative to the location of the historic properties listed in Table 4.4-2. It has been determined that none of the new projects proposed in the 2020 RTP/SCS would affect any California Historical Landmarks or Butte County Landmarks. In each case, the proposed improvements are well away from a designated

historic resource. In addition, there are no specific development projects pursuant to the land use scenario envisioned by the 2020 RTP/SCS identified at this time, as the land use scenario is similar to what was envisioned in 2016.

However, because future infill could be located near or adjacent to existing historic structures, the integrity of such structures could be indirectly or directly impacted as a result. Moreover, if future infill development from the 2020 RTP/SCS would involve redevelopment/demolition of existing structures, it is possible that such structures could have historical significance (as determined by site-specific evaluation) given the presence of structures that are over 50 years old within the Plan Area, particularly within existing urbanized areas. Redevelopment or demolition could result in the permanent loss of historic structures. Similarly, while proposed transportation projects would not impact known historic structures, it is possible that such projects may require reconstruction or demolition of transportation infrastructure or other structures that are over 50 years old (such as Caltrans historic bridges as listed in Table 4.4-2), and which may be considered historically significant as determined by site-specific evaluation. Such reconstruction or demolition could result in the permanent loss of historic structures. Impacts would be potentially significant.

Mitigation Measures

The following mitigation measures included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects identified in Table 4.4-3. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

CUL-1(a) Cultural Resources Study

The project sponsor of a 2020 RTP/SCS project involving earth disturbance, the installation of pole signage or lighting, or construction of permanent above ground structures or roadways shall ensure that the following elements are included in the project's individual environmental review:

1. Prior to construction, a map defining the Area of Potential Effects (APE) shall be prepared on a project by project basis for 2020 RTP/SCS improvements which involve earth disturbance, the installation of pole signage or lighting, or construction of permanent above ground structures. This map will indicate the areas of primary and secondary disturbance associated with construction and operation of the facility and will help in determining whether known archaeological, paleontological or historical resources are located within the impact zone.
2. A preliminary study of each project area, as defined in the APE, shall be completed to determine whether or not the project area has been studied under an earlier investigation, and to determine the impacts of the previous project.
3. If the results of the preliminary studies indicate additional studies are necessary; development of field studies and/or other documentary research shall be developed and completed (Phase I studies). Negative results would result in no additional studies for the project area.
4. Based on positive results of the Phase I studies, an evaluation of identified resources shall be completed to determine the potential eligibility/significance of the resources (Phase II studies).
5. Phase II mitigation studies shall be coordinated with the Office of Historic Preservation, as the research design will require review and approval from the OHP. In the case of prehistoric or Native American related resources, the Native American Heritage Commission and/or local

representatives of the Native American population shall be contacted and permitted to respond to the testing/mitigation programs.

CUL-1(b) Cultural Resources Monitor

If development of the proposed improvement requires the presence of an archaeological, Native American, or paleontological monitor, the project sponsor shall ensure that a Native American monitor, certified archaeologist, and/or certified paleontologist, as applicable, monitors the grading and/or other initial ground altering activities. The schedule and extent of the monitoring will depend on the grading schedule and/or extent of the ground alterations. This requirement can be accomplished through placement of conditions on the project by the local jurisdiction during individual environmental review.

CUL-1(c) Material Recovery

The project sponsor shall ensure that materials recovered over the course of any given improvement are adequately cleaned, labeled, and curated at a recognized repository. This requirement can be accomplished through placement of conditions on the project by the local jurisdiction during individual environmental review.

CUL-1(d) Mitigation of Discovered Resources

The project sponsor shall ensure that mitigation for potential impacts to significant cultural resources includes one or more of the following:

- Realignment of the project right-of-way (avoidance; the most preferable method);
- Capping of the site and leaving it undisturbed;
- Addressing structural remains with respect to NRHP guidelines (Phase III studies);
- Relocating structures per NRHP guidelines;
- Creation of interpretative facilities; and/or
- Development of measures to prevent vandalism.

This can be accomplished through placement of conditions on the project by the local jurisdiction during individual environmental review.

Significance After Mitigation

Mitigation Measures CUL-1(a) through CUL-1(d) from the 2016 RTP/SCS EIR would ensure that substantial adverse changes to archeological and paleontological resources would be less than significant. As described in the 2016 RTP/SCS EIR, impacts from individual projects will need to be addressed on a case-by-case basis; however, because mitigation measures would either avoid the impacts, minimize the impacts, or recover the resources, archeological and paleontological impacts would be less than significant, consistent with the findings for the 2016 RTP/SCS EIR. Although the above measures would reduce impacts to historical resources, such impacts cannot be fully mitigated due to redevelopment and/or demolition that may be required to implement infill development in accordance with the SCS and may result in permanent loss of historic structures. Therefore, impacts to historic structures would remain significant and unavoidable, consistent with the findings of the 2016 RTP/SCS.

Threshold: Would the project disturb any human remains, including those interred outside of formal cemeteries?

Impact CUL-2 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE 2020 RTP/SCS COULD DISTURB UNKNOWN HUMAN REMAINS DURING CONSTRUCTION ACTIVITY, RELATIVE TO THE 2020 RTP/SCS. IMPACTS TO HUMAN REMAINS WOULD REMAIN SIGNIFICANT BUT MITIGABLE.

Indications are that humans have occupied Butte County for over 10,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities from new projects proposed in the 2020 RTP/SCS, regardless of depth, may yield human remains that may not be interred in marked, formal burials. Under CEQA, human remains are protected under the definition of archaeological materials as being “any evidence of human activity.” Additionally, Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that human remains are inadvertently discovered during project implementation. Construction activity associated with the transportation improvements and any new development envisioned by the 2020 RTP/SCS may result in the discovery of human remains. Therefore, impacts would be potentially significant.

Mitigation Measures

The following mitigation measure included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects identified in Table 4.4-3. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

CUL-2 Implement Stop-Work and Consultation Procedures Mandated by Public Resources Code 5097

In the event of discovery or recognition of any human remains during construction or excavation activities, the implementing agency shall cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the following steps are taken:

- The Butte County Coroner has been informed and has determined that no investigation of the cause of death is required.
- If the remains are of Native American origin, either of the following steps will be taken:
 - The coroner will contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner will make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.
 - The implementing agency or its authorized representative will retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:

- The Native American Heritage Commission is unable to identify a descendent.
- The descendant identified fails to make a recommendation.
- The implementing agency or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

Significance After Mitigation

Mitigation Measure CUL-2 from the 2016 RTP/SCS EIR would reduce impacts to human remains to less than significant. As described in the 2016 RTP/SCS EIR, impacts from individual projects will need to be addressed on a case-by-case basis; however, because mitigation measures would either avoid the impacts, minimize the impacts, or recover the resources, impacts to human remains would be less than significant, consistent with the findings for the 2016 RTP/SCS EIR.

c. Specific 2020 RTP/SCS Projects That May Result in Impacts

All 2020 RTP/SCS projects that require ground disturbance on previously undisturbed land may result in cultural and paleontological impacts. Table 4.4-3 identifies representative projects with the potential to cause or contribute to direct or indirect impacts to cultural and paleontological resources. These projects were chosen based on their scope and potential to include the development of new transportation infrastructure. While many projects have the potential to impact cultural resources, those requiring substantial ground disturbance in undisturbed areas have greater potential to impact prehistoric archaeological resources. Projects located in urban infill or previously disturbed areas have a greater potential to impact historic built environment resources, as well as historic archaeological resources in older developed areas. Additional specific analysis will be required as individual projects are implemented to determine the actual magnitude of impact. Mitigation measures discussed above would apply to these specific projects.

Table 4.4-3 RTP Projects that May Results in Cultural Resources Impacts

Implementing Agency	Title	Project Description	Project Type
Butte County	Autrey Lane and Monte Vista Safe Routes to Schools Gap Closure Project	Curb, gutter, sidewalk, and crossing enhancements along Autrey Ln. and Monte Vista Ave. On Autrey Ln. from Las Plumas to Monte Vista and along Monte Vista from Autrey Ln. to Lincoln Blvd.	Bicycle & Pedestrian
Butte County	Monte Vista & Lower Wyandotte Class II Bike Project	Construct Class II bike facilities along Monte Vista Ave. and Lincoln Blvd. to Lower Wyandotte Rd. in locations that do not have existing curb, gutter and sidewalks, along with Class II bike facilities along Lower Wyandotte Rd. from Las Plumas Ave./Oro Bangor Hwy. to Monte Vista Ave. From Lincoln Blvd. along Monte Vista to Lower Wyandotte and up Lower Wyandotte from Monte Vista to Las Plumas.	Bicycle & Pedestrian

Implementing Agency	Title	Project Description	Project Type
Butte County	Palermo/South Oroville SRTS Project, Phase 3	Design curb, gutter, sidewalk, and crossing enhancements along Lincoln Blvd., Palermo Rd., and Baldwin Ave. in locations that do not have existing curb, gutter, and sidewalks. From Hewitt Ave. from Palermo Rd. up to Baldwin Ave. along Baldwin Ave. from Hewitt to Lincoln Blvd. down Lincoln Blvd. from Baldwin Ave. to Palermo Rd. Also, on Palermo Rd. from Lincoln to Palermo Middle School.	Bicycle & Pedestrian
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Rd. over Tributary to Little Chico Creek west of River Rd. Construct a new 2-lane bridge to replace the existing 2-lane low water crossings. Bridge No. 00L0092.	Maintenance
Butte County	Local Highway Bridge Program (HBP Grouped)	Midway Rd. over Butte Creek, 0.3 mile south of White Drive and Midway over Butte Creek Overflow, 3.9 mile north of Nelson Rd. Replace two existing structurally deficient 2-lane bridges with a new 2-lane bridge. Bridge No. 12C0052 & 12C0053.	Maintenance
Butte County	Local Highway Bridge Program (HBP Grouped)	E. Rio Bonito Rd. over Hamilton Slough 0.2 mile east of SR 99. Replace the existing functionally obsolete 2-lane bridge with a new 2-lane bridge. Bridge No. 12C0164.	Maintenance
Butte County	Local Highway Bridge Program (HBP Grouped)	E. Rio Bonito Rd. over Sutter-Butte Canal 0.8 mile east of SR 99. Replace the existing 2-lane structurally deficient bridge with a new 2-lane bridge. Bridge No. 12C0165.	Maintenance
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Rd. over Little Chico Creek, 1 mile east of River Rd. Replace the existing 2-lane structurally deficient bridge with a new 2-lane bridge. Bridge No. 12C0242.	Maintenance
Butte County	Central House Rd Over Wymann Ravine Bridge	Located at 0.2 miles east of SR 70. Scope is to replace the existing 1 lane structurally deficient bridge with a new 2-lane bridge. Bridge No: 12C011	Safety
Butte County	Local Highway Bridge Program (HBP Grouped)	Skyway Westbound at Butte Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Cana Hwy. at Pine Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Afton Rd. at Butte Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Cana Pine Creek Rd. at Pine Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Mesa Rd. at Durham Mutual Irrigation Canal	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Dunstone Dr. at Lower Honcut Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Lower Wyandotte at Wyman Ravine	Bridge Replacement

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Implementing Agency	Title	Project Description	Project Type
Butte County	Local Highway Bridge Program (HBP Grouped)	Ord Ferry Rd. at The Dips	Low Water Crossing
Butte County	Local Highway Bridge Program (HBP Grouped)	Keefer Rd. at Keefer Slough	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Oro-Bangor Hwy. at North Fork Honcut Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Oro-Bangor Hwy. at Branch Rocky Honcut Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Bradford Rd. at Little Dry Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	River Rd. at Shady Oaks Slough	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	River Rd. at Grassy Banks Slough	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Swedes Flat Rd. at Rocky Honcut Creek	Bridge Replacement
Butte County	Local Highway Bridge Program (HBP Grouped)	Neal Rd. at Nance Canyon	Bridge Replacement
Caltrans	SR 99 Bridge Scour Mitigation	SR 99 near Richvale, at Cottonwood Creek Bridge No. 12-0120, from 0.3 mile south to 0.5 mile north of Nelson Ave. Replace and realign scour-critical bridge. (EA 0F290)	Maintenance
Caltrans	SR 70 Permanent Restoration	SR 70 near Paradise, from 0.8 mile west to 0.2 mile east of Shady Rest Area. Restore and repair damaged roadway by raising the existing vertical alignment by approximately 5 feet and protecting the embankment against future flooding with Rock Slope Protection (RSP) or a retaining structure. (EA 3H540)	Safety
Caltrans	SR 70 Roadside Enhancement	SR 70 in Butte County, on Route 70 at approximately 7.0 miles south of Oroville; also in Colusa County on Route 20 at approximately 4.0 miles east of Colusa. Advance mitigation credit purchases for future SHOPP construction projects expected to impact sensitive habitats. (EA 2H140)	Maintenance
Caltrans	SR 162 Safety Improvements	SR 162 in and near Oroville, from Foothill Blvd. to the Gold Country Casino entrance. Construct two-way left-turn lane and widen shoulders. (EA 2H630)	Safety
Caltrans	SR 32 Safety Improvements	SR 32 in Chico, from West Sacramento Ave. (East) to West Sacramento Ave. (West). Construct two roundabouts. (EA 2H240)	Safety
Caltrans	SR 70 Passing Lanes (Segment 1)	SR 70, from 0.1 mile south of Palermo Rd., to just north of Ophir Rd./Pacific Heights intersection. SHOPP Safety Only. Add center turn lane and 8-foot shoulders. (EA 3H71U)	Safety

Implementing Agency	Title	Project Description	Project Type
Caltrans	SR 70 Passing Lanes (Segment 1)	SR 70 from 0.1 mile south of Palermo Rd., to just north of Ophir Rd./Pacific Heights intersection. Widen from 2 lanes to 4 lanes. (EA 3H71U). Capacity increasing portion only.	Capacity
Caltrans	SR 70 Passing Lanes (Segment 2)	On SR 70 from Cox Ln. to 0.1 mile south of Palermo Road. Widen from 2 lanes to 4 lanes. (EA 3F281 & 3H720)	Safety
Caltrans	SR 70 Passing Lanes (Segment 2)	On SR 70 from Cox Lane to 0.1 mile south of Palermo Road. Widen from 2 lanes to 4 lanes. (EA 3F281 & 3H720)	Capacity
Caltrans	SR 70 Passing Lanes (Segment 3)	On Route 70 from 0.4 mile south or east of Gridley Rd. to 0.3 mile South of Butte/Yuba County line. Widen from 2 lanes to 4 lanes. (EA 3H930 & 3F282)	Safety
Caltrans	SR 70 Passing Lanes (Segment 3)	On Route 70 from 0.4-mile south or east of Gridley Rd. to 0.3 mile South of Butte/Yuba County line. Widen from 2 lanes to 4 lanes. (EA 3H930 & 3F282)	Capacity
Caltrans	SR 32 ADA Curb Ramps	SR 32 in Chico, from Walnut Street to Poplar Street. Upgrade Americans with Disabilities Act (ADA) facilities. (EA 4F800)	Safety - Bicycle & Pedestrian
Caltrans	SR 32 Safety Improvements	SR 32 in Butte County on Route 32 from 0.3 mile east of Glenn/Butte County line to Muir Ave. Safety improvements. (EA 4H880)	Safety
Caltrans	SR 32 Pavement Rehab	SR 32 in and near Chico on Route 32 from Muir Ave. to Route 99. Upgrade pavement, add new lighting, add new signal, and replace drainage systems. (EA 4H760)	Maintenance
Caltrans	SR 99 Pavement Rehab	SR 99 in Butte County in Gridley from West Liberty Rd. to Chico San Dr. Pavement rehab, upgrade curb ramps, drainage systems, and install fiber optics. (EA 1H140)	Maintenance
Caltrans	SR 191 Permanent Restoration	SR 191 in Butte County on Route 191 from 0.7 mile south of Paradise Dump Rd. to 0.3 mile south of Old Clark Rd. Cut back existing slopes. (SHOPP ID 21899)	Safety
Caltrans	SR 32 Permanent Restoration	SR 32 in Butte County on Route 32, 0.9 mile east of Addison Rd. Soldier pile wall. (SHOPP ID 21796)	Safety
Caltrans	SR 70 Permanent Restoration	SR 70 in Butte County on Route 70 at various locations. Drainage systems. (SHOPP ID 21798)	Safety
Caltrans	SR 70 Pavement Rehab	SR 70 in Butte County on Route 70 from 0.6 mile east of Big Ben Rd. to Plumas County line. Roadway preservation (CAPM) and drainage improvements. (SHOPP ID 20496)	Maintenance

Implementing Agency	Title	Project Description	Project Type
Chico	Esplanade Corridor Safety and Accessibility Improvement Project	Project includes various non-motorized "complete streets" improvements along the Esplanade Corridor from W. 11th Ave. to Memorial Ave. Improvements are both on Esplanade and Oleander.	Bicycle & Pedestrian
Chico	Little Chico Creek Pedestrian/Bicycle Bridge Connection at Community Park Project	Just south of Humboldt Rd., west of SR 99. Project entails new bridge connector over Little Chico Creek into the north side of 20th Street park.	Bicycle & Pedestrian
Chico	SR 99 Bikeway Phase 4 Improvements	Business Ln. along the east side of SR 99 corridor to the Skyway northbound on-ramp. Project is to construct a new Class 1 Bikeway Project.	Bicycle & Pedestrian
Chico	SR 99 Corridor Bikeway Phase 5 - 20th Street Crossing	SR 99 Corridor Bikeway Project Phase 5 completes the gap adjacent to SR 99 from Chico Mall across 20th St. to the south end of Business Ln. Scope of project is develop a new bicycle and pedestrian crossing (bridge) over 20th St. in Chico.	Bicycle & Pedestrian
Chico	Bruce Rd Bridge Replacement Project	In Chico 0.5 miles south of Humboldt Rd. on Bruce Rd. over Little Chico Creek. Project includes replacement of an existing 2-lane functionally obsolete bridge with a new 4-lane bridge including reconstruction of bridge approaches. New bridge incorporates a Class I bicycle facility.	Capacity Increasing
Chico	Local Highway Bridge Program (HBP Grouped)	Vallombrosa Ave. at Big Chico Creek between 1st St. and Memorial Wy. Scope of the work includes rock slope protection (RSP) and scour mitigation.	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Park Ave. at Little Chico Creek, 0.1 mile north of 11th Street. Scope of the work includes RSP and scour mitigation.	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Warner St. at Big Chico Creek between 1st St and Legion Ave. Scope of the work includes RSP and scour mitigation, joint seal.	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Bruce Rd. at S. Fork Dead Horse Slough, just north of SR 32. Scope of the work includes RSP and scour mitigation.	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	E. 5th Ave. at Lindo Channel, at E. Lindo Ave. Scope of the work includes RSP, scour mitigation and Methacrylate Deck treatment.	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Cypress St. at Little Chico Creek between Humboldt Ave. and 12th St. Scope of the work includes RSP, scour mitigation and Methacrylate Deck treatment.	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Main St. at Big Chico Creek, 0.15 mile north of 2nd St. Scope of work includes joint seals.	Maintenance

Implementing Agency	Title	Project Description	Project Type
Chico	Local Highway Bridge Program (HBP Grouped)	Walnut St. at Little Chico Creek between Dayton Rd. and 9th St. Scope of the work includes RSP, scour mitigation and Methacrylate Deck treatment.	Maintenance
Chico	Local Highway Bridge Program (HBP Grouped)	Broadway St. at Little Chico Creek just south of 9th St. Scope of work includes AC deck removal Methacrylate Deck treatment, wingwall and backwall repairs.	Maintenance
Chico	Highway Safety Improvement Program (HSIP Grouped)	At the intersection at SR-99 NB On-Off Ramps/Eaton Road/Hicks Ln. Scope is to construct a 5-leg roundabout intersection with adequate bike and pedestrian access. H8-03-003.	Safety
Chico	Highway Safety Improvement Program (HSIP Grouped)	In Chico, on Walnut St between W 1th St and W, 9th St. Scope: Walnut St. (SR32) from 1st to 4th (Buffered Bike lanes); continue from 5th through 9th St. (buffered bike lane and vehicle lane transition striping only); intersections of 1st, 3rd, and 5th (new signal hardware). HSIP7-03-001	Safety
Chico	Local Highway Bridge Program (HBP Grouped)	Ivy St. over Little Chico Creek between 9th & 11th Sts.. Rehabilitate and widen the existing 2-lane bridge to a full width 2 lanes with shoulders. Bridge No. 12C0279	Safety
Chico	Local Highway Bridge Program (HBP Grouped)	Pomona Rd. over Little Chico Creek, 0.4 mile south east of Miller Ave. Replace the existing 2-lane bridge, without adding lane capacity. Bridge No. 12C0328, Project #5037(024), 5037(036).	Safety
Chico	Local Highway Bridge Program (HBP Grouped)	Salem St. over Little Chico Creek, 0.1 mile north of 10th St. Rehabilitate functionally obsolete 2-lane bridge. No Added Lane capacity. Bridge No. 12C0336.).	Safety
Chico	Guynn Rd over Lindo Channel Bridge Project	Project is located just north of W. Lindo Ave. Replace the existing 1 lane structurally deficient bridge with a new 2-lane bridge. Bridge No 12C0066.	Safety
Chico	Bruce Rd. Widening	From Skyway to SR 32, widen roadway (bridge included as separate project).	Capacity
Chico	Commerce Court Connection	From Ivy St. to Park Ave. connect existing Commerce Ct. to Park Ave. via Westfield Ln.	Capacity New
Chico	E. 20th Street Widening	From Forest Ave. to Bruce Rd. Widen from 1 lane per direction to 2 lanes per direction with median.	Capacity New
Chico	Eaton Rd Widening	From Hicks Ln. to Cohasset Rd. Widen and extend to 4 lanes with median and new bridge at Sycamore Creek Tributary.	Capacity New
Chico	Eaton Rd Widening	From Cohasset Rd. to Manzanita Ave. Widen to 4 lanes with median.	Capacity New

Implementing Agency	Title	Project Description	Project Type
Chico	Esplanade Widening	Shasta Ave. to Nord Hwy. Widen to 4 lanes with median.	Capacity New
Chico	Mariposa Ave Connection	From Glenshire Ln. to Eaton Rd., add new arterial connection. 1 lane per direction.	Capacity New
Chico	Notre Dame Boulevard Connection	Construct new bridge at Little Chico Creek.	Capacity New
Chico	Midway Widening	From Hagan Ln. to Park Ave. Widen road from 2 lanes to 4 lanes with a median.	Capacity
Chico	Skyway Capacity Improvements	From SR 99 to Bruce Rd. Corridor capacity enhancements.	Maintenance and Operations
Chico	Eaton Rd/ Floral Ave	2-lane roundabout.	Maintenance and Operations
Chico	Eaton Rd/ Ceanothus Ave	1-lane roundabout.	Maintenance and Operations
Chico	Cohasset Rd Widening	Widen roadway to include left turn lanes and flatten curves between and including Airpark Blvd., and Two Oaks Dr.	Maintenance and Operations
Gridley	Central Gridley Pedestrian Connectivity and Equal Access Project	Install ADA curb ramps and detectable warning surfaces, close sidewalk gaps, and striping crosswalks along Sycamore, Magnolia, Indiana, and Vermont Sts. in the central blocks of Gridley.	Bicycle & Pedestrian
Gridley	Gridley Bike & Pedestrian SR 99 Corridor Facility Project	In the City of Gridley, improvements entail installing ADA curb ramps and detectable warning surfaces, striping crosswalks, and Class I bike path along SR 99 from Township Rd. to Archer Ave.	Bicycle & Pedestrian
Oroville	SR 162 Pedestrian/Bicycle Disabled Mobility and Safety Improvements Project	Hwy. 162 in Oroville, CA between Feather River Blvd. and Foothill Blvd. The project includes a comprehensive set of active transportation infrastructure connectivity and safety improvements.	Bicycle & Pedestrian
Paradise	Oliver Curve Class I Phase I Project	Oliver Rd. between Skyway and Valley View Dr. (approximately 0.39 miles). Along Oliver Rd., construct a grade separated, Class I, bike-ped facility along the west side of Oliver Rd. within the project limits. This project is a proactive safety effort to protect bicyclists and pedestrians along a heavily traveled corridor around a horizontal curve. In this location, the many daily bicyclists and pedestrians are forced to walk the edge line, causing vehicles to swerve into oncoming traffic.	Bicycle & Pedestrian

Implementing Agency	Title	Project Description	Project Type
Paradise	Paradise ATP Gateway Project	Neal Rd between Town Limits and Skyway (1.62 miles), Skyway between Neal Rd. and Pearson Rd. (0.9 miles). Along Neal Rd., construct a grade separated, Class I, bike-ped facility along the west side of Neal Rd. within the project limits. This component will tie into Butte County Class II Bike Lanes which terminate at Town Limits, bringing both novice and experienced bicyclists and pedestrians to existing the 5-mile Class I facility at the Neal/Skyway intersection. Along Skyway, infill all missing sidewalks to connect to area resources and government facilities.	Bicycle & Pedestrian
Paradise	Pentz Road Trailway Phase II Project	Pentz Rd. between Pearson Rd. and Bille Rd. (1.63 miles), Pentz Rd. between Wagstaff Rd. and Skyway (1.56 miles). Scope of the project is to construct a grade separated, Class I, bike-ped facility along the west side of Pentz Rd. within the project limits. This project will tie into funded improvements between Bille Rd. and Wagstaff Rd., scheduled for completion summer 2019.	Bicycle & Pedestrian
Paradise	Lower Pentz Pathway Project	Construct Class 1 paths along Pentz Rd. from Bille to Pearson Rd.	Safety – Bicycle & Pedestrian
Paradise	Upper Pentz Road Pathway Project	Construct Class 1 paths along Pentz Rd. from Wagstaff to Skyway	Safety – Bicycle & Pedestrian
Paradise	Pearson/Sawmill Intersection Improvements	Install crosswalks and potential intersection control at the Pearson Rd. Sawmill Intersection	Safety

Source: BCAG 2020 RTP/SCS project list

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4.5 Energy

This section discusses the energy impacts of implementing the 2040 RTP/SCS, following the guidance for evaluation of energy impacts in Section 15126.2(b) and Appendix G of the *CEQA Guidelines*. The 2016 RTP/SCS EIR did not include energy as a standalone resource section in Section 4, but did analyze energy impacts from wasteful energy use in Section 5, *Other CEQA*.

4.5.1 Setting

Energy relates directly to environmental quality. Energy use can adversely affect air quality and can generate greenhouse gas (GHG) emissions that contribute to climate change. Fossil fuels are burned to power vehicles, to generate electricity for powering residences and commercial/industrial buildings, and to heat and cool building spaces. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes such as auto, carpool, and public transit; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy.

a. Energy Supply

Petroleum

California

California is one of the top producers of petroleum in the nation, with drilling operations occurring throughout the state, but primarily concentrated in Kern and Los Angeles counties. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received in ports in Los Angeles, Long Beach, and the San Francisco Bay area. Crude oil production in California and Alaska is in decline, and California refineries have become increasingly dependent on foreign imports (California Energy Commission [CEC] 2020a). Foreign suppliers now produce more than half of the crude oil refined in California (CEC 2016a).

Butte County

Petroleum fuels are generally purchased by individual users such as residents and employees. While no petroleum refineries are located in the County limits, there is one petroleum product terminal where petroleum is stored for distribution in the City of Chico (EIA 2020a). According to the Division of Oil, Gas, and Geothermal Resources (DOGGR), no abandoned, orphaned, or operating oil wells exist within the Plan Area (DOC 2020).

Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. The use of these fuels is encouraged through various statewide regulations and plans, such as the Low Carbon Fuel Standard and Senate Bill (SB) 32. Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle with transportation fuels including the following:

Hydrogen

Hydrogen is being explored for use in combustion engines and fuel cell electric vehicles. The interest in hydrogen as an alternative transportation fuel stems from its clean-burning qualities, its potential for domestic production, and the fuel cell vehicle's potential for high efficiency, which is two to three times more efficient than gasoline vehicles. Currently, 42 hydrogen refueling stations are located in California; however, none are located in Butte County (DOE 2020a).

Biodiesel

Biodiesel is a renewable alternative fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases. Biodiesel is biodegradable and cleaner-burning than petroleum-based diesel fuel. Biodiesel can run in any diesel engine generally without alterations; however, fueling stations have been slow to make it available. There are currently 11 biodiesel refueling stations in California, none of which is located in Butte County (DOE 2020b).

Electric Vehicles

Electricity can be used to power electric and plug-in hybrid electric vehicles directly from the power grid. Electricity used to power vehicles is generally provided by the electricity grid and stored in the vehicle's batteries. Fuel cells are being explored as a way to use electricity generated onboard the vehicle to power electric motors. There are 20 electrical charging stations in Butte County, with 5 located in the Oroville area and 15 in the Chico region (DOE 2020c).

Natural Gas

California

Natural gas continues to play an important and varied role in California. The State's net natural gas production for 2019 was 193.9 billion cubic feet, or approximately 201,123 billion British thermal units (Btu), representing a decrease of 4.3 percent from 2018 production (EIA 2020b).

2018 California Gas Report

The 2018 California Gas Report presents a comprehensive outlook for natural gas requirements and supplies for California through the year 2035. The report is prepared in even-numbered years, followed by a supplemental report in odd-numbered years, in compliance with California Public Utilities Commission (CPUC) Decision D.95-01-039. The projections contained in the California Gas Report are for long-term planning and do not necessarily reflect the day-to-day operational plans of the utilities (California Gas and Electric Utilities [CGEU] 2018).

California natural gas demand, including volumes not served by utility systems, is expected to decrease at a rate of 0.5 percent per year from 2018 to 2035. The forecasted decline is due to a combination of moderate growth in the Natural Gas Vehicle market and across-the-board declines in all other market segments: residential, commercial, electric generation, and industrial markets (CGEU 2018).

Residential gas demand is expected to decrease at an annual average rate of 1.4 percent. Demand in the commercial and industrial markets are expected to increase slightly at an annual rate of 0.2 percent. Stricter codes and standards coupled with more aggressive energy efficiency programs and new goals laid out in SB 350, discussed further under *Regulatory Setting*, are making a significant impact on the forecasted load for the residential, commercial, and industrial markets (CGEU 2018).

For the purposes of load-following as well as backstopping intermittent renewable resource generation, gas-fired generation will continue to be the primary technology to meet the ever-growing demand for electric power; however, overall gas demand for electric generation is expected to decline at 1.4 percent per year for the next 17 years due to more efficient power plants, statewide efforts to minimize GHG emissions through aggressive programs pursuing demand-side reductions, and the acquisition of preferred power generation resources that produce little or no carbon emissions (CGEU 2018).

California's existing gas supply portfolio is regionally diverse and includes supplies from California onshore and offshore sources, Southwestern United States supply sources, the Rocky Mountains, and Canada (CGEU 2018).

Butte County

The Plan Area does not contain any active natural gas wells (DOC 2020), and therefore the member jurisdictions of BCAG do not oversee or produce any natural gas within the Plan Area.

Electricity

California

In 2018, California's in-state electric generation totaled 194,842 gigawatt-hours (GWh) (CEC 2019a). Primary fuel sources for the State's electricity generation in 2018 included natural gas (46.5 percent), solar photovoltaic (PV) (14.0 percent), large hydro (11.3 percent), nuclear (9.4 percent), wind (7.2 percent), geothermal (5.9 percent), biomass (3.0 percent), small hydro (2.2 percent), coal (0.2 percent), petroleum coke/waste heat (0.2 percent), and oil (<0.1 percent) (CEC 2019a). In-state electricity generation capacity is approximately 80,000 megawatts (MW) in 2018 (CEC 2019a).

California's 2019 Integrated Energy Policy Report

Every two years, the CEC prepares the Integrated Energy Policy Report (IEPR). The 2019 IEPR highlighted the implementation of California's innovative policies and the role the State played in establishing a clean energy economy. The 2019 IEPR was adopted in February 2020 and encompasses new analyses, as well as opportunities for public participation. According to the 2019 IEPR, California's electric grid relies increasingly on clean sources of energy such as solar, wind, geothermal, hydroelectricity, and biomass (CEC 2020b). As this transition advances, the grid is also expanding to serve new sectors including electric vehicles, rail, and space and water heating. Community choice aggregation is allowing for customers to choose cleaner energy resources, with residential and commercial retail customers increasingly departing from investor-owned utilities (CEC 2020b). California's Renewables Portfolio Standard (RPS) establishes increasing renewable energy procurement requirements for electricity utilities and other load-serving entities. The 2019 IEPR highlights the renewable portfolio (RPS) targets of 33 percent renewable energy sources by 2020 and 100 percent carbon-free energy sources by 2045, as established by SB 100 (CEC 2020b). As discussed further under *Regulatory Setting*, the RPS targets under SB 100 include 33 percent renewable sources by 2020, 50 percent renewable sources by 2026, 60 percent renewable sources by 2030, and 100 percent carbon-free sources by 2045.

Butte County

Pacific Gas and Electric (PG&E) is responsible for providing power supply to Butte County while complying with county, State, and federal regulations. PG&E's power system is one of the nation's

largest electric and gas utilities and maintains 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines (PG&E 2020a). In 2018, PG&E’s power mix, including all PG&E-owned generation plus PG&E’s power purchases, consisted of 39 percent renewable resources, including wind, geothermal, biomass, solar, and small hydro; 34 percent nuclear generation; 15 percent natural gas; and 13 percent large hydroelectric facilities (PG&E 2019a).

PG&E’s 2018 Integrated Resource Plan

PG&E’s 2018 Integrated Resource Plan serves as a roadmap through 2030 that guides PG&E’s efforts to supply reliable electricity in an environmentally responsible and cost-effective manner. The Integrated Resource Plan introduces new constraints and considerations into the power system planning process and is intended to help applicable parties understand how load serving entities plan to shape their future energy portfolios to meet the State’s clean energy goals. In the 2018 Integrated Resource Plan, PG&E analyzes three scenarios for 2030 that differ in various aspects, including the share of electric vehicles in the statewide fleet and availability of different energy sources. According to these scenarios, PG&E anticipates meeting a 2030 energy load demand of between 36,922 gigawatt hours (GWh) and 37,370 GWh (PG&E 2018).

b. Energy Demand

Petroleum

The most recent data for State and county fuel consumption are further illustrated in Table 4.5-1. As shown therein, in 2018 Butte County consumed an estimated 86 million gallons of gasoline and 13 million gallons of diesel fuel (CEC 2019b). As Butte County had a 2018 population of 227,621 (Appendix D), the County’s annual per capita fuel consumption in 2018 consisted of 377.8 gallons of gasoline and 57.1 gallons of diesel fuel. As shown in Table 4.5-1, each person in Butte County consumed approximately 48.8 million Btu in transportation fuel in 2018.

Table 4.5-1 2018 Annual and Daily Gasoline and Diesel Consumption

Fuel Type	California (million gallons)	Butte County (million gallons)	Butte County (billions of Btu)	Butte County Per Capita Consumption (million gallons)	Butte County Per Capita Consumption (MMBtu)
Gasoline	15,471	86	9,441	377.8	41.5
Diesel	1,777	13	1,657	57.1	7.3
Total	17,248	99	11,098	434.9	48.8

Source: CEC 2019b, Appendix D

Natural Gas

According to the CEC, Butte County consumed approximately 42.0 million U.S. therms of natural gas in 2018 (CEC 2018a). With a population of 227,621 in 2018 (Appendix D), Butte County’s 2018 per capita natural gas consumption was approximately 184.4 U.S. therms. As shown in Table 4.5-2, Butte County’s per capita natural gas consumption in 2018 was approximately 17.2 million Btu.

Table 4.5-2 2018 Annual Natural Gas Consumption

Energy Type	Butte County (U.S. Therms)	County Per Capita Consumption (U.S. Therms)	County Per Capita Consumption (MMBtu)
Natural Gas	41,980,106	184.4	17.2

Source: CEC 2018a

Electricity

According to the CEC, Butte County consumed approximately 1,479.2 GWh in 2018 (CEC 2018b). With a population of 227,621 in 2018 (Appendix D), Butte County’s 2018 per capita electricity consumption was approximately 6.5 MWh. As shown in Table 4.5-3, Butte County’s per capita electricity consumption was approximately 22.2 million Btu in 2018.

Table 4.5-3 2018 Annual Electricity Consumption

Energy Type	Butte County (MWh)	County Per Capita Consumption (kWh)	County Per Capita Consumption (MMBtu)
Electricity (MWh)	1,479,211	6,499.0	22.2

Source: CEC 2018b

4.5.2 Regulatory Setting

Federal

Energy Independence and Security Act of 2007

The Energy Independence and Security Act, enacted by Congress in 2007, is designed to improve vehicle fuel economy and help reduce U.S. dependence on foreign oil. It expands the production of renewable fuels, reducing dependence on oil, and confronting global climate change. Specifically, it does the following:

- Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard, requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels
- Reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020 – an increase in fuel economy standards of 40 percent

Energy Policy and Conservation Act

Enacted in 1975, this legislation established fuel economy standards for new light-duty vehicles sold in the U.S. The law placed responsibility on the National Highway Traffic and Safety Administration, a part of the U.S. Department of Transportation, for establishing and regularly updating vehicle standards. The United States Environmental Protection Agency (USEPA) administers the Corporate Average Fuel Economy program, which determines vehicle manufacturers’ compliance with existing fuel economy standards. Since the inception of the Corporate Average Fuel Economy program, the average fuel economy for new light-duty vehicles steadily increased from 13.1 miles per gallon for

the 1975 model year to 30.7 miles per gallon for the 2014 model year and is proposed to increase to 54.5 by 2025. Light-duty vehicles include autos, pickups, vans, and sport-utility vehicles.

Energy Star Program

In 1992, the USEPA introduced Energy Star as a voluntary labeling program designed to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specification for maximum energy use established under the program are certified to display the Energy Star label. In 1996, the USEPA joined with the Energy Department to expand the program, which now also includes qualifying commercial and industrial buildings, and homes.

State

California Energy Plan

The CEC is responsible for preparing the California Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The 2008 California Energy Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs; and encouragement of urban designs that reduce vehicle miles travelled (VMT) and accommodate pedestrian and bicycle access.

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), the CEC and the California Air Resources Board (CARB) prepared and adopted in 2003 a joint agency report, *Reducing California's Petroleum Dependence*. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT. One of the performance-based goals of AB 2076 is to reduce petroleum demand to 15 percent below 2003 demand. Furthermore, in response to the CEC's 2003 and 2005 *Integrated Energy Policy Reports*, the Governor directed the CEC to take the lead in developing a long-term plan to increase alternative fuel use.

Senate Bill 1078: California Renewables Portfolio Standard Program

SB 1078 (Chapter 516, Statutes of 2002), and as expanded under SB 2, established the RPS for electricity supply. The RPS requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 20 percent of their supply from renewable sources by 2017. SB 2 expanded this law and required procurement from eligible renewable energy resources to 33 percent by 2020. In addition, electricity providers subject to the RPS must increase their renewable share by at least one percent each year.

Senate Bill 100: California Renewable Energy Portfolio Standard Program: Emissions of Greenhouse Gases

Approved by the Governor on September 10, 2018, SB 100 amends the State's RPS program from 33 percent of electricity generation from renewable sources by 2020 and 50 percent by 2030 to 33 percent by 2020, 50 percent by 2026, 60 percent by 2030, and 100 percent carbon-free electricity generation by 2045.

Assembly Bill 1493: Reduction of Greenhouse Gas Emissions

AB 1493 (Chapter 200, Statutes of 2002), known as the Pavley bill, amended Health and Safety Code sections 42823 and 43018.5 requiring CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California.

Implementation of new regulations prescribed by AB 1493 required that the state of California apply for a waiver under the federal Clean Air Act. Although the USEPA initially denied the waiver in 2008, USEPA approved a waiver in June 2009, and in September 2009, CARB approved amendments to its initially adopted regulations to apply the Pavley standards that reduce GHG emissions to new passenger vehicles in model years 2009 through 2016. According to CARB, implementation of the Pavley regulations is expected to reduce fuel consumption while also reducing GHG emissions.

Energy Action Plan

In the October 2005 *Energy Action Plan (EAP) II*, the CEC and CPUC updated their energy policy vision by adding some important dimensions to the policy areas included in the original EAP, such as the emerging importance of climate change, transportation-related energy issues and research and development activities. The CEC adopted an update to the EAP II in February 2008 that supplements the earlier EAPs and examines the State's ongoing actions in the context of global climate change.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statutes of 2005) required the CEC to prepare a plan to increase the use of alternative fuels in California. The CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other federal, State, and local agencies. The State Alternative Fuels Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Bioenergy Action Plan, Executive Order S-06-06

Executive Order (EO) S-06-06, April 25, 2006, establishes targets for the use and production of biofuels and biopower, and directs State agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels in California by 2010, 40 percent by 2020, and 75 percent by 2050. EO S-06-06 also calls for the State to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies those barriers and

recommends actions to address them so that the State can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:

- Increase environmentally and economically sustainable energy production from organic waste
- Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications
- Create jobs and stimulate economic development, especially in rural regions of the state
- Reduce fire danger, improve air and water quality, and reduce waste

Title 24, California Code of Regulations

California Code of Regulations, Title 24, Part 6, is California’s Energy Efficiency Standards for Residential and Non-residential Buildings. The CEC established Title 24 in 1978 in response to a legislative mandate to create uniform building codes to reduce California’s energy consumption and provide energy efficiency standards for residential and nonresidential buildings. The standards are updated on an approximately three-year cycle to allow consideration and possible incorporation of new efficient technologies and methods. In 2016, the CEC updated Title 24 standards with more stringent requirements effective January 1, 2017. All buildings for which an application for a building permit is submitted on or after January 1, 2017, must follow the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The CEC Impact Analysis for California’s 2016 Building Energy Efficiency Standards estimates that the 2016 Standards are 28 percent more efficient than the previous 2013 standards for residential buildings and five percent more efficient for non-residential buildings. The building efficiency standards are enforced through the local plan check and building permit process. Local government agencies may adopt and enforce additional energy standards for new buildings as reasonably necessary due to local climatologic, geologic, or topographic conditions, provided these standards exceed those provided in Title 24.

California Green Building Standards Code (2019), California Code of Regulations Title 24, Part 11

California’s Green Building Code, referred to as CalGreen, was developed to provide a consistent approach to green building in the State. Having taken effect in January 2020, the most recent version of CalGreen lays out the minimum requirements for newly constructed residential and nonresidential buildings to reduce GHG emissions through improved energy efficiency and process improvements. It also includes voluntary tiers to further encourage building practices that improve public health, safety, and general welfare by promoting a more sustainable design.

Local

Butte County General Plan

The Butte County General Plan 2030 was adopted on October 26, 2010 and amended November 6, 2012. The General Plan includes the following goals and policies regarding energy consumption:

Goal H-6 Promote energy conservation.

Policy H-P6.1 Continue to implement state energy efficiency standards.

Policy H-P6.2 Provide energy conservation assistance to low-income households.

Goal COS-3 Promote a sustainable energy supply.

Policy COS-P3.1 The expansion and increased efficiency of hydroelectric power plants in the county shall be encouraged, provided that such plants can be expanded and that significant adverse environmental impacts associated with such plants can be successfully mitigated.

Policy COS-P3.2 The development of renewable fuel sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated.

Policy COS-P3.3 Utility lines shall be constructed along existing utility corridors wherever feasible.

Policy COS-P3.4 Solar-oriented and renewable design and grid-neutral development shall be encouraged.

Policy COS-P3.5 Developers shall give homebuyers the option of having renewable heat and power incorporated into new homes.

Policy COS-P3.6 Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.

Policy COS-P3.7 Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-5.

Goal COS-4 Conserve energy and fuel resources by increasing energy efficiency.

Policy COS-P4.1 Energy efficiency efforts of local businesses shall be promoted and rewarded.

Policy COS-P4.2 The Zoning Ordinance shall incorporate shading requirements for new parking lots as appropriate to relieve the potential for heat islands.

Policy COS-P4.3 New development shall meet the guidelines of the California Energy Star New Homes Program, or equivalent, and demonstrate detailed energy conservation measures.

Policy COS-P4.4 Site and structure designs for new development projects shall maximize energy efficiency.

City General Plans

Local planning policies related to energy use are established in each jurisdiction's general plan, generally in the Conservation Element or equivalent chapter. The Chico General Plan Sustainability Element contains policies aimed at increasing energy efficiency and reducing non-renewable energy use, such as Policy SUS-5.1, which calls for energy retrofit improvements on existing buildings, and Policy SUS-5.2, which supports energy efficient design measures in new projects (City of Chico 2017). The Biggs General Plan also contains Policy PFS-5.4, which requires the provision of energy

that meets portfolio requirements and Action ED-1.1.4, which encourages the pursuit of clean energy uses (City of Biggs 2014). The Gridley General Plan Conservation Element contains Conservation Goals 6, 7, and 8 specifically related to energy use and renewable energy generation (City of Gridley 2009). Finally, the Town of Paradise General Plan includes goals, objectives, and policies that promote energy conservation in the Open Space, Conservation, and Energy Element (Town of Paradise 2008).

Butte County Climate Action Plan

The Butte County Department of Development Services coordinated preparation of this community-wide Climate Action Plan (CAP) for the unincorporated area of Butte County. The CAP is an implementation mechanism of the County's General Plan adopted in 2010 and amended in 2012, providing goals, policies, and programs to reduce GHG emissions, address climate change adaptation, and improve quality of life in the county. The CAP also supports statewide GHG emissions reduction goals identified in AB 32 and SB 375. The CAP includes measures pertaining to building energy efficiency, construction equipment fuel usage, and transportation emissions.

City of Chico 2020 Climate Action Plan

The City of Chico developed the 2020 Climate Action Plan, which includes actions to reduce energy consumption. The plan's Sustainability Element identifies several actions for increasing energy efficiency, such as increased coordination with PG&E to provide education about reducing energy use, and consideration of a City-sponsored low-interest loan program for energy efficiency improvements and renewable energy devices (City of Chico 2012).

City of Oroville Community Climate Action Plan

The City of Oroville has a citywide target to increase energy efficiency and renewable energy generation. The Community CAP includes local strategies that would reduce the energy use of new developments, retrofit residential and non-residential buildings, increase lighting energy efficiency, implement solar installation requirements for new buildings, and expand local energy production to meet 25 percent of the City's municipal demand (City of Oroville 2015).

4.5.3 Impact Analysis

a. Methodology and Thresholds of Significance

Significance Thresholds

Pursuant to the *CEQA Guidelines*, potentially significant energy impacts to would result if the project would:

- Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation
- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency

Methodology

Public Resources Code Section 21100(b)(3) states that an EIR shall include "mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy." The physical

environmental impacts associated with the use of energy including the generation of electricity and burning of fuels have been accounted for in Section 4.2, *Air Quality*, and Section 4.6, *Greenhouse Gas Emissions*.

Energy consumption is analyzed herein in terms of construction and operational energy. Construction energy demand accounts for anticipated energy consumption during construction of the 2020 RTP/SCS, such as fuel consumed by construction equipment and construction workers' vehicles traveling to and from construction sites. Operational energy demand accounts for the anticipated energy consumption during operation of the transportation system and land use scenario envisioned by the 2020 RTP/SCS, such as fuel consumed by cars, trucks, and public transit; natural gas consumed for heating indoor spaces; and electricity consumed for lighting, new traffic signals, and electric vehicle charging stations.

For this analysis, the calculation of total energy consumption follows the Input-Output methodology suggested by Caltrans (Caltrans 1983). It should be noted that the Caltrans methodology provides for the calculation of the cumulative energy consumption. Not only does the methodology include energy consumption that would be due solely to the construction of 2020 RTP/SCS projects, it also includes energy consumption that is not due to the 2020 RTP/SCS, but rather is due to socioeconomic growth (e.g., population and employment), land use policies, and the existing transportation infrastructure.

This analysis takes into consideration the equipment and processes employed during construction of the 2020 RTP/SCS and the land uses, location, and VMT per service population of the 2020 RTP/SCS to qualitatively determine whether energy consumed during construction and operation would be wasteful, inefficient, or unnecessary.

Energy consumption is categorized herein in terms of "direct" and "indirect" energy. Direct energy accounts for energy consumed during operation of the transportation system and land use scenario envisioned under the 2020 RTP/SCS, such as fuel consumed by vehicles, natural gas consumed for heating and/or power, and electricity consumed for power. Indirect energy accounts for construction-related energy (e.g., the energy required to construct transportation improvements), which is anticipated to be consumed through the life of the plan as several transportation improvement projects may be undertaken concurrently, and is therefore characterized as a long-term, operational energy use. Indirect energy also accounts for the maintenance of a roadway over the life of a project, which is also considered a long-term, operational energy use.

Direct Energy Consumption

Direct energy is that energy used in the daily operation of the transportation system, including the propulsion of passenger vehicles (automobiles, vans and trucks) and transit vehicles, including buses and trains. The direct energy analysis for the project is based on baseline (2018) and 2040 VMT with and without the 2020 RTP/SCS (as analyzed in Section 4.9, *Transportation and Circulation*).

The 2018 gasoline and diesel fuel consumption data for Butte County was converted to Btu (refer to Table 4.5-1) and divided by region-wide daily VMT in 2018 (4.9 million) to derive a regional Btu/VMT conversion factor of 6,244 Btu per VMT. This conversion factor was applied to the estimated VMT in 2040 under implementation of the 2020 RTP/SCS to determine daily energy consumption. Finally, the daily energy consumption was divided for the forecasted population in 2040 to calculate the per capita energy use in 2040.

It should be noted that the Btu/VMT factor is forecast to continue to decrease into the future as a result of improved fuel economy. Applying the 2018-based factor to 2020 RTP/SCS horizon year

(2040) VMT therefore provides a conservative evaluation of energy consumption, as the energy efficiency of vehicles in 2040 is likely to be higher than the current fuel efficiency of vehicles.

Indirect Energy Consumption

Indirect energy is the energy required to construct, operate, and maintain the transportation network, as well as to manufacture and maintain on-road vehicles and transit vehicles. Therefore, construction-related impacts associated with the 2020 RTP/SCS are included in the indirect energy analysis. The indirect energy analysis was conducted using the Input-Output methodology developed by Caltrans (1983). This method converts VMT, lanes-miles, or construction dollars into energy consumption based on data from other transportation projects in the United States. Table 4.5-4 shows the indirect energy consumption factors used in this analysis. It should be noted that indirect energy consumption due to production of fuel and transportation/transmission to the end users is not included in this analysis, as any such analysis would be speculative.

Table 4.5-4 Indirect Energy Consumption Factors

Mode	Factor (Btu/VMT)
Manufacturing	
Passenger Vehicles	1,410
Transit Buses	3,470
Roadway (construction)	27,300
Rail (construction)	2,108
Maintenance	
Passenger Vehicles	1,400
Transit Buses	13,142
Rail	7,060

Source: Caltrans 1983

b. Project Impacts and Mitigation Measures

Threshold 1: Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Impact E-1 FUTURE TRANSPORTATION IMPROVEMENT PROJECTS AND IMPLEMENTATION OF THE LAND USE SCENARIO ENVISIONED BY THE 2020 RTP/SCS WOULD NOT RESULT IN A SIGNIFICANT ENVIRONMENTAL IMPACT DUE TO THE WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Daily operation of the County’s transportation system uses energy in the form of fuel consumed by propulsion of passenger vehicles (automobiles, vans, and trucks) and transit vehicles (buses and trains). Some highway and roadway improvements included in the 2020 RTP/SCS would increase vehicle capacity, allowing a greater number of vehicles to use County facilities. However, increasing capacity and improving roadways and intersections does not necessarily result in an increase in motor vehicle trips. Increases in motor vehicle trips are primarily a combined function of population growth and employment growth. It should be noted that population growth and an increase in VMT would occur within the region regardless of whether the 2020 RTP/SCS is implemented. As a result,

energy consumption as it relates to vehicles would increase beyond the 2018 baseline in any scenario. The 2020 RTP/SCS would help to minimize energy consumption by improving the overall efficiency of the transportation system. In addition, many 2020 RTP/SCS projects (e.g., bikeway and pedestrian, rail, transit, and Transportation Demand Management [TDM] projects) would improve the availability of alternative transportation modes, help reduce congestion and resultant harmful air quality emissions in the County. Generally, the availability of these alternative modes would be expected to reduce overall motor vehicular trips, VMT, and associated energy consumption.

Construction and maintenance of proposed 2020 RTP/SCS projects (including construction and maintenance of roadways and rail lines) would result in short-term consumption of energy resulting from the use of construction equipment and processes. During construction activities, energy would be needed to operate construction equipment. In addition, roadway and transit construction materials, such as asphalt, concrete, surface treatments, steel, rail ballast, as well as building materials, require energy to be produced, and would likely be used in projects that involve new construction or replacement of older materials. The CalGreen Code includes specific requirements related to recycling, construction materials, and energy efficiency standards, which would apply to construction of roadway and transit improvement projects envisioned by the 2020 RTP/SCS and help to minimize waste and energy consumption. All construction and maintenance conducted pursuant to the 2020 RTP/SCS, or as a result of improvements made by the 2020 RTP/SCS, would be required to comply with the CalGreen Code and would thus reduce energy consumption associated with buildout of the 2020 RTP/SCS.

Table 4.5-5 shows the VMT and total energy use (Btu) in the County under baseline (2018) conditions and conditions in 2040 with implementation of the 2020 RTP/SCS.

Table 4.5-5 Transportation Energy Use

Year	Daily VMT	Total Energy Use (Annual Billion Btu)	Total Energy Use (Daily Billion Btu)	Energy Use per Capita (Daily Thousand Btu)
2018 Baseline	4,705,417	11,098	32.62	143.3
2040 with 2020 RTP/SCS	5,332,327	12,598	34.52	129.8

Source: Appendix D

As shown in Table 4.5-5, countywide daily VMT and total daily energy use would increase over time as the result of regional socioeconomic (population and employment) growth. However, the 2020 RTP/SCS would result in an approximately 9.4 percent decrease in per capita energy usage when compared to 2018 baseline conditions.

The transportation improvements proposed under the 2020 RTP/SCS would result in a more efficient transit system. The 2020 RTP/SCS also would result in greater availability of public transit and other alternative modes of transportation, such as bicycling, which does not consume fuel energy and also reduces traffic congestion. The reduction in overall congestion resulting from these service level improvements would reduce fuel consumption and promote fuel efficiency beyond what is accounted for in the above analysis. In addition, improvements to State fuel efficiency standards for vehicles and State mandated increases in the supply and use of alternative transportation fuels would further reduce fuel consumption, such as implementation of electric vehicle charging station plan.

New transportation facilities that require energy for operation, such as signal lighting, roadway or parking lot lighting, and electronic equipment would increase energy demand. New landscaping irrigation would also increase energy demand through water pumping and treatment. However, energy consumption would not be unnecessary or wasteful, as all lighting, signage and irrigation systems would comply with applicable energy efficiency requirements within the California Building Code. Therefore, the transportation improvements projects included in the 2020 RTP/SCS would not result in inefficient, unnecessary, or wasteful consumption of gasoline or diesel fuel or an increased reliance on fossil fuels.

In summary, the 2020 RTP/SCS would not result in wasteful or inefficient energy consumption within the region. Therefore, the 2020 RTP/SCS would not have a significant impact on energy. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Threshold 2: Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Impact E-2 THE 2020 RTP/SCS WOULD NOT CONFLICT WITH OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY. THIS IMPACT WOULD LESS THAN SIGNIFICANT.

As discussed in Section 4.5.2, *Regulatory Setting*, several state plans, the County’s adopted 2030 General Plan, local General Plans, the County’s Climate Action Plan, and local Climate Action Plans include energy conservation and energy efficiency strategies intended to enable the State and the County to achieve GHG reduction and energy conservation goals. A full discussion of the 2020 RTP/SCS’s consistency with GHG reduction plans is included in Section 4.6, *Greenhouse Gas Emissions*. As shown in Table 4.5-6, the 2020 RTP/SCS would be consistent with State renewable energy and energy efficiency plans.

The Butte County 2030 General Plan includes goals and policies that encourage energy conservation and energy efficiency. The Butte County Climate Action Plan includes various goals and policies that employ energy conservation and efficiency measures through an array of strategies. Local General Plans and local Climate Action Plans include similar goals and policies. As shown in Table 4.5-7, the 2020 RTP/SCS would be consistent with the energy conservation and efficiency strategies contained in the Butte County 2030 General Plan, local General Plans, Butte County Climate Action Plan, and local Climate Action Plans.

Table 4.5-6 Consistency with State Renewable Energy and Energy Efficiency Plans

Renewable Energy or Energy Efficiency Plan	Proposed Project Consistency
<p>California Energy Plan. The plan identifies several strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs, as well as encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.</p>	<p>Consistent. The 2020 RTP/SCS includes transit service program funding, rehabilitation, and other improvements; the installation of electric bus and chargers; new park and rides; additional bus stops; and construct new pedestrian and bicycle routes. Additionally, the 2020 RTP/SCS land use scenario concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the County. These 2020 RTP/SCS projects would encourage urban design that reduces VMT and accommodates pedestrian and bicycle access as well as facilitate infrastructure for zero-emission vehicles. Therefore, the 2020 RTP/SCS would not conflict with or obstruct implementation of the California Energy Plan.</p>
<p>Assembly Bill 2076: Reducing Dependence on Petroleum. Pursuant to AB 2076, the CEC and CARB prepared and adopted a joint-agency report, <i>Reducing California's Petroleum Dependence</i>, in 2003. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT. One of the performance-based goals of AB 2076 is to reduce petroleum demand to 15 percent below 2003 demand.</p>	<p>Consistent. The 2020 RTP/SCS includes transit service program funding, rehabilitation, and other improvements; the installation of electric bus and chargers; new park and rides; additional bus stops; and construct new pedestrian and bicycle routes. All of these projects would encourage increased use of alternative modes of transportation and decrease the use of passenger vehicles, facilitate the reduction of petroleum demand through increasing the use of alternative fuels, and would not conflict with or obstruct implementation of AB 2076 and <i>Reducing Dependence on Petroleum</i>.</p>
<p>2018 Integrated Energy Policy Report. Volume I highlights the implementation of California's innovative policies and the role they have played in establishing a clean energy economy. Volume II provides more detail on several key energy policies, including decarbonizing buildings, increasing energy efficiency savings, and integrating more renewable energy into the electricity system.</p>	<p>Consistent. 2020 RTP/SCS projects would be required to comply with Title 24 of the California Building Code. Compliance would include rooftop solar on all residential building types that are three stories or less in height. Electricity would be provided by PG&E, which source some of its power from renewable sources. Therefore, 2020 RTP/SCS projects would not conflict with or obstruct implementation of the 2018 Integrated Energy Policy Report.</p>
<p>California Renewable Portfolio Standard. California's RPS obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent total retail sales of electricity from renewable energy sources by 2020, 60 percent by 2030, and 100 percent by 2045.</p>	<p>Consistent. Electricity in the County is provided by PG&E. PG&E is required to generate electricity that would increase renewable energy resources to 60 percent by 2030 and 100 percent by 2045. In 2018, PG&E's power mix included 73 percent carbon-free sources (PG&E 2019a). Because PG&E would provide electricity service to 2020 RTP/SCS projects, the 2020 RTP/SCS would not conflict with or obstruct implementation of the California Renewable Portfolio Standard.</p>

Renewable Energy or Energy Efficiency Plan	Proposed Project Consistency
<p>AB 1493: Reduction of Greenhouse Gas Emissions. AB 1493 requires CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California.</p>	<p>Consistent. Vehicles used in the County would be subject to the regulations adopted by CARB pursuant to AB 1493. Therefore, the 2020 RTP/SCS would not conflict with or obstruct implementation of AB 1493.</p>
<p>Energy Action Plan. In the October 2005, the CEC and CPUC updated their energy policy vision by adding some important dimensions to the policy areas included in the original EAP, such as the emerging importance of climate change, transportation-related energy issues, and research and development activities. The CEC adopted an update to the EAP II in February 2008 that supplements the earlier EAPs and examines the state’s ongoing actions in the context of global climate change. The nine major action areas in the EAP include energy efficiency, demand response, renewable energy, electricity adequacy/reliability/infrastructure, electricity market structure, natural gas supply/demand/infrastructure, transportation fuels supply/demand/infrastructure, research/development/demonstration, and climate change.</p>	<p>Consistent. The 2020 RTP/SCS would include several projects that promote the use of renewable energy and energy efficiency. In addition, 2020 RTP/SCS projects would be required to comply with Title 24 of the California Code of Regulations. Electricity would be provided by PG&E, which sources some of its power from renewable sources. Given these features, 2020 RTP/SCS projects would facilitate implementation of the nine major action areas in the Energy Action Plan. Therefore, the 2020 RTP/SCS would not conflict with or obstruct implementation of the Energy Action Plan.</p>
<p>AB 1007: State Alternative Fuels Plans. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California’s goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.</p>	<p>Consistent. The 2020 RTP/SCS includes projects that would install electric bus and chargers. Therefore, the 2020 RTP/SCS would facilitate the use of alternative fuels and would not conflict with or obstruct implementation of AB 1007.</p>
<p>Bioenergy Action Plan, Executive Order S-06-06. The EO establishes the following targets to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels in California by 2010, 40 percent by 2020, and 75 percent by 2050.</p>	<p>Consistent. 2020 RTP/SCS projects would not interfere with or obstruct the production of biofuels in California. Vehicles used in the County would be fueled by gasoline and diesel fuels blended with ethanol and biodiesel fuels as required by CARB regulations. Therefore, the 2020 RTP/SCS would not conflict with or obstruct implementation of the Bioenergy Action Plan.</p>
<p>Title 24, California Code of Regulations – Part 6 (Building Energy Efficiency Standards) and Part 11 (CALGreen). The 2019 Building Energy Efficiency Standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multi-family buildings of three stories and less.</p> <p>The CALGreen Standards establish green building criteria for residential and nonresidential projects. Updates to the 2016 Standards include the following: increasing the number of parking spaces that must be prewired for electric vehicle chargers in residential development; requiring all residential development to adhere to the Model Water Efficient Landscape Ordinance; and requiring more appropriate sizing of HVAC ducts.</p>	<p>Consistent. 2020 RTP/SCS projects would be required to comply with Title 24 of the California Code of Regulations. Therefore, the 2020 RTP/SCS would not conflict with or obstruct implementation of the Title 24 standards.</p>

Table 4.5-7 Consistency with the General Plans and Climate Action Plans

Energy Efficiency Goal, Policy, or Strategy	Proposed Project Consistency
Butte County 2030 General Plan	
<p>Goal H-6. Promote energy conservation. <i>Policy H-P6.1.</i> Continue to implement state energy efficiency standards. <i>Policy H-P6.2.</i> Provide energy conservation assistance to low-income households.</p>	<p>Consistent. 2020 RTP/SCS projects would be required to comply with Title 24 of the California Building Code and the California Energy Code, which would increase energy efficiency and energy conservation.</p>
<p>Goal COS-3. Promote a sustainable energy supply. <i>Policy COS-P3.2.</i> The development of renewable fuel sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated. <i>Policy COS-P3.4.</i> Solar-oriented and renewable design and grid-neutral development shall be encouraged. <i>Policy COS-P3.6.</i> Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow. <i>Policy COS-P3.7.</i> Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-5.</p>	<p>Consistent. 2020 RTP/SCS projects would be served by PG&E, which is required to generate electricity that would increase renewable energy resources to 60 percent by 2030 and 100 percent by 2045. In 2018, PG&E’s power mix included 73 percent carbon-free sources (PG&E 2019a).</p>
<p>Goal COS-4. Conserve energy and fuel resources by increasing energy efficiency. <i>Policy COS-P4.1.</i> Energy efficiency efforts of local businesses shall be promoted and rewarded. <i>Policy COS-P4.3.</i> New development shall meet the guidelines of the California Energy Star New Homes Program, or equivalent, and demonstrate detailed energy conservation measures. <i>Policy COS-P4.4.</i> Site and structure designs for new development projects shall maximize energy efficiency.</p>	<p>Consistent. 2020 RTP/SCS projects would be required to comply with Title 24 of the California Building Code and the California Energy Code. In addition, the 2020 RTP/SCS includes transit service program funding, rehabilitation, and other improvements; the installation of electric bus and chargers; new park and rides; additional bus stops; and construct new pedestrian and bicycle routes; which would conserve energy and fuel resources.</p>
Chico General Plan	
<p>Policy SUS-5.1: Energy Efficient Retrofits. Promote energy efficient retrofit improvements in existing buildings. Policy SUS-5.2: Energy Efficient Design. Support the inclusion of energy efficient design and renewable energy technologies in public and private projects.</p>	<p>Consistent. 2020 RTP/SCS projects would be required to comply with Title 24 of the California Building Code and the California Energy Code, which would increase energy efficiency and energy conservation.</p>
Biggs General Plan	
<p>Policy PFS-5.4: Electric Power Portfolio. Continue to provide customers with a reliable energy source mix that is price competitive and meets portfolio mix requirements.</p>	<p>Consistent. 2020 RTP/SCS projects would be served by PG&E, which is required to generate electricity that would increase renewable energy resources to 60 percent by 2030 and 100 percent by 2045. In 2018, PG&E’s power mix included 73 percent carbon-free sources (PG&E 2019a).</p>

Energy Efficiency Goal, Policy, or Strategy	Proposed Project Consistency
Gridley General Plan, Conservation Element	
<p>Goal 6: To encourage local generation and use of renewable energy.</p> <p>Goal 7: To encourage energy efficient site planning and building construction.</p> <p>Goal 8: To increase energy efficiency in City operations.</p>	<p>Consistent. 2020 RTP/SCS projects would be required to comply with Title 24 of the California Building Code and the California Energy Code, which would increase energy efficiency and energy conservation. Additionally, 2020 RTP/SCS projects would be served by PG&E, which currently provides 75 percent carbon free energy (PG&E 2019a).</p>
Paradise General Plan	
<p>Goal OCEG-10: Maximize Paradise's energy efficiency.</p> <p>Objective OCE0-15: Throughout the life of the General Plan, encourage energy conservation in building design, construction techniques, and in the overall lifestyle of Paradise citizens.</p>	<p>Consistent. 2020 RTP/SCS projects would be required to comply with Title 24 of the California Building Code and the California Energy Code, which would increase energy efficiency and energy conservation.</p>
Butte County Climate Action Plan	
<p>Measure EN7. Encourage new nonresidential buildings to meet and exceed CALGreen standards for energy efficiency, water conservation, and passive design.</p> <p>Measure GO8. Construct new buildings to CALGreen Tier 1 standards</p>	<p>Consistent. 2020 RTP/SCS projects would be required to comply with Title 24 of the California Code of Regulations. Therefore, the 2020 RTP/SCS would not conflict with or obstruct implementation of the CALGreen standards.</p>
<p>Measure F1. Expand the use of alternative and clean-fuel vehicles.</p> <p>Measure GO7. Reduce emissions from employee commutes by encouraging alternative travel options and supporting the use of clean, alternative fuels.</p>	<p>Consistent. The 2020 RTP/SCS includes transit service program funding, rehabilitation, and other improvements; the installation of electric bus and chargers; new park and rides; and additional bus stops; which would expand the use of alternative fuels.</p>
Chico 2020 Climate Action Plan	
<p>Transportation Objective 1: Reduce Vehicle Miles Traveled</p> <p>Transportation Objective 2: Expand the Use of Alternative Fuels</p>	<p>Consistent. The 2020 RTP/SCS includes transit service program funding, rehabilitation, and other improvements; the installation of electric bus and chargers; new park and rides; and additional bus stops; which would expand the use of alternative fuels and reduce VMT.</p>
<p>Energy Objective 2: Green Building and Energy Efficiencies</p> <p>Energy Objective 3: Improve Lighting Efficiency</p>	<p>Consistent. 2020 RTP/SCS projects would be required to comply with Title 24 of the California Code of Regulations. Therefore, the 2020 RTP/SCS would support energy-efficient building and lighting features.</p>
Oroville Community Climate Action Plan	
<p>BE-1. Green Building Ordinance. Achieve 15% less energy use than the 2013 Title 24 requirements in new development</p> <p>BE-4. Energy Efficient Lighting Standards. Reduce electricity consumption with energy-efficient lighting</p> <p>BE-5. Solar Installations for New Development. Implement solar energy installation requirements for new buildings to increase renewable energy generation</p> <p>BE-7. Local Renewable Energy Development. Expand local renewable energy production to meet at least 25% of the City's municipal electricity demand</p>	<p>Consistent. 2020 RTP/SCS projects would be required to comply with Title 24 of the California Code of Regulations. Therefore, the 2020 RTP/SCS would not conflict with or obstruct implementation of the CALGreen standards, and would support energy-efficient building and lighting features.</p>

Energy Efficiency Goal, Policy, or Strategy	Proposed Project Consistency
LUT-6. Electric Vehicle (EV) Charging Stations. Expand public charging facilities to promote electric vehicle usage within the city and greater Butte County area	Consistent. 2020 RTP/SCS projects include electric vehicle infrastructure, including new electric buses and chargers.

The 2020 RTP/SCS would be consistent with State energy efficiency plans, the County’s adopted energy conservation and efficiency strategies contained in its 2030 General Plan and Climate Action Plan, and local General Plan and Climate Action Plan energy efficiency policies. As described under Impact E-1, construction and operation of the 2020 RTP/SCS would be required to comply with relevant provisions of CALGreen and Title 24 of the California Energy Code. Therefore, this impact would be less than significant, and no mitigation is required.

Mitigation Measures

No mitigation is required.

c. Specific 2020 RTP/SCS Projects That May Result in Impacts

As discussed above, the 2020 RTP/SCS would result in less than significant impacts related to efficient energy consumption. The 2020 RTP/SCS would support the use of alternate modes of transportation, through improvements to bicycle, pedestrian, and transit facilities, which would decrease the region’s reliance on passenger vehicles and gasoline consumption. As a result, impacts related to energy efficiency would be less than significant.

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4.6 Greenhouse Gas Emissions/Climate Change

This section discusses potential impacts related to greenhouse gas emissions and climate change. Air quality impacts are discussed in Section 4.2, *Air Quality*.

4.6.1 Setting

a. Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC 2013), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-20th century (IPCC 2013).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHG). The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's surface would be about 34°C cooler (CalEPA 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The GHGs that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are primarily determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO₂, CH₄, and N₂O are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. N₂O is produced by microbial processes in soil and water, including those reactions that occur in fertilizers that contain nitrogen, fossil fuel combustion, and other chemical processes.

Man-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases and SF₆ (California Environmental Protection Agency [CalEPA] 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally 100 years). Because GHGs absorb different amounts of heat, a common reference gas, CO₂, is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide

equivalent” (CO₂e), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 23, meaning its global warming effect is 25 times greater than carbon dioxide on a molecule-per-molecule basis (CalEPA 2006).

b. Greenhouse Gas Emissions Inventories

Federal Emissions Inventory

Total U.S. GHG emissions were 6,456.7 million metric tons (MMT) CO₂e in 2017 (USEPA 2019). Total U.S. emissions have increased by 1.3 percent since 1990. However, emissions decreased by 0.5 percent from 2016 to 2017 (USEPA 2019). The decrease from 2016 to 2017 was a result of a decrease in CO₂ emissions from fossil fuel consumption, which was a result of multiple factors, including: (1) a continued shift from coal to natural gas, (2) increased use of renewable energy in the electric power sector, and (3) milder weather that contributed to less overall electricity use (USEPA 2019). Relative to 1990, U.S. emissions in 2017 are higher by 1.3 percent, down from a high of 15.7 percent in 2007. In 2017, the industrial and transportation end-use sectors accounted for 27 percent and 36.7 percent of CO₂ emissions (with electricity-related emissions distributed), respectively. Meanwhile, the residential and commercial end-use sectors accounted for 19 percent and 16 percent of CO₂ emissions, respectively (USEPA 2019).

California Emissions Inventory

Based on the California Air Resources Board (CARB) California Greenhouse Gas Inventory for 2000-2017, California produced 424 MMT CO₂e in 2017 (CARB 2019). The largest single source of GHG in California is transportation, contributing 40 percent of the State’s total GHG emissions. Industrial sources are the second-largest source of the state’s GHG emissions, contributing 21 percent of the State’s GHG emissions (CARB 2019). California emissions are due in part to its large size and large population compared to other states. However, the State’s mild climate reduces California’s per capita fuel use and GHG emissions as compared to other states. CARB has projected statewide unregulated GHG emissions for the year 2020 will be 509.4 MMT CO₂e (CARB 2014). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

c. Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The global combined land and ocean temperature data show an increase of about 0.85°C (0.65°C to 1.06°C) over the period 1880 to 2012, when described by a linear trend. Several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations are in agreement that LSAT as well as sea surface temperatures have increased. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014).

According to the CalEPA’s 2010 Climate Action Team Biennial Report, potential impacts of climate change in California may include loss in snow pack, sea level rise, more extreme heat days per year,

more high ozone days, more large forest fires, and more drought years (CalEPA 2010). Below is a summary of some of the potential effects that could be experienced in California as a result of climate change.

Air Quality

Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (CCCC 2009b).

Water Supply

Analysis of paleoclimatic data, such as tree-ring reconstructions of stream flow and precipitation, indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10 percent during the last century, a loss of 1.5 million acre-feet of snowpack storage. During the same period, sea level rose seven inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many Southern California cities have experienced their lowest recorded annual precipitation twice within the past decade. In a span of two years, Los Angeles experienced both its driest and wettest years on record (California Department of Water Resources [DWR] 2008).

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The Sierra snowpack provides the majority of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. Based on historical data and modeling, the DWR projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050. Climate change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (DWR 2008).

Hydrology and Sea Level Rise

As discussed above, climate change could potentially affect: the amount of snowfall, rainfall, and snow pack experienced by a city or region; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for saltwater intrusion. According to *The Impacts of Sea-Level Rise on the California Coast* (CCCC 2009), climate change has the potential to induce substantial sea level rise in the coming century. The most recent IPCC report (2013) predicts a mean global sea level rise of 11 to 33 inches by 2100. In its report, *Rising Seas in California*, the Ocean Protection Council (OPC) predicts that sea levels along the California coast will likely (67% probability) rise by 0.2 to 1.2 feet by 2050 and 0.7 to 3.6 feet by 2100 (Griggs et al. 2017), varying by

location and future conditions. A rise in sea levels could result in coastal flooding and erosion, and could jeopardize California's water supply due to saltwater intrusion. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

The ocean covers over 70 percent of the earth's surface and acts as a major carbon sink in the global carbon cycle. As the concentration of CO₂ in the atmosphere increases, so does the concentration of carbon in the ocean. The reaction of dissolved CO₂ with seawater results in the creation of carbonic acid (H₂CO₃), carbonate, bicarbonate, and hydrogen ions, which lowers pH causing higher seawater acidity. Higher acidity in seawater affects many aquatic animals' ability to fix calcium for body structure, which could have significant negative effects across the entire food chain.

The rising sea level increases the likelihood and risk of coastal flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, as observed by satellites, ocean buoys, and land gauges, was approximately 3.2 mm per year, which is double the observed 20th century trend of 1.7 mm per year (World Meteorological Organization [WMO] 2013). As a result, sea levels averaged over the last decade were approximately 7.5 inches higher than those of 1901 (WMO 2013). Sea levels are rising faster now than in the previous two millennia, and the rise is expected to accelerate, even with robust GHG emission control measures.

Agriculture

California has a \$37 billion annual agricultural industry that produces approximately half of the country's fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency (CCCC 2019). However, if temperatures rise and drier conditions prevail, water demand could increase, crop-yield could be threatened by a less reliable water supply, and greater air pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (CCCC 2019). Agriculture may face challenges due to extreme heat and water stress associated with climate change.

Ecosystems and Wildlife

Climate change and the potential resulting changes in weather patterns could have ecological effects on a global, regional, and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the average global surface temperature could rise by 0.3 to 4.8°C by 2100, with substantial regional variation (IPCC 2014). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals:

1. Timing of ecological events;
2. Geographic range;
3. Species' composition within communities; and
4. Ecosystem processes, such as carbon cycling and storage (Parmesan 2006).

Local Effects of Climate Change

While the above discussion identifies the possible effects of climate change at a global and potentially statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. In general, regional and local predictions are made based on downscaling statewide models (CalEPA 2010). Further, certain factors such as sea

level rise would not have a direct impact to the Butte County region, which is located more than 100 miles inland of the Pacific Ocean. Wildfire, another possible effect of climate change, is discussed in Section 4.11, *Wildfire*.

d. Regulatory Setting

International

The United States is, and has been, a participant in the United Nations Framework Convention on Climate Change (UNFCCC) since it was produced in 1992. The UNFCCC is an international environmental treaty with the objective of, “stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.” This is generally understood to be achieved by stabilizing global GHG concentrations between 350 and 400 ppm in order to limit the global average temperature increases between 2 and 2.4°C above pre-industrial levels (IPCC 2007). The UNFCCC itself does not set limits on GHG emissions for individual countries or enforcement mechanisms. Instead, the treaty provides for updates, called “protocols,” that would identify mandatory emissions limits.

Five years later, the UNFCCC brought nations together again to draft the Kyoto Protocol (1997). The Kyoto Protocol established commitments for industrialized nations to reduce their collective emissions of six GHGs (CO₂, CH₄, N₂O, SF₆, HFCs, and PFCs) to 5.2 percent below 1990 levels by 2012. The United States is a signatory of the Kyoto Protocol, but Congress has not ratified it and the United States has not bound itself to the Protocol’s commitments (UNFCCC 2007). The first commitment period of the Kyoto Protocol ended in 2012. Governments, including 38 industrialized countries, agreed to a second commitment period of the Kyoto Protocol beginning January 1, 2013 and ending either on December 31, 2017 or December 31, 2020, to be decided by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its seventeenth session (UNFCCC 2011).

In Durban (17th session of the Conference of the Parties in Durban, South Africa, 2011), governments decided to adopt a universal legal agreement on climate change. Work began on that task immediately under a new group called the Ad Hoc Working Group on the Durban Platform for Enhanced Action. Progress was also made regarding the creation of a Green Climate Fund (GCF) for which a management framework was adopted (UNFCCC 2011).

In December 2015, the 21st session of the Conference of the Parties (COP21) adopted the Paris Agreement. The agreement requires all countries that ratify it to commit to reducing greenhouse gas emissions, with the goal of peaking greenhouse gas emissions “as soon as possible” (Worland 2015). The agreement includes commitments to (1) achieve a balance between sources and sinks of greenhouse gases in the second half of this century; (2) to keep global temperature increase “well below” 2°C (or 3.6°F) and to pursue efforts to limit it to 1.5°C; (3) to review progress every five years; and (4) to spend \$100 billion a year in climate finance for developing countries by 2020 (UNFCCC 2015). The agreement includes both legally binding measures, like reporting requirements, as well as voluntary or non-binding measures such as the setting of emissions targets for any individual country (Worland 2015).

Federal

In *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120), the U.S. Supreme Court held that the USEPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act. The USEPA issued a Final Rule for mandatory reporting of GHG

emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The first annual reports for these sources were due in March 2011.

On May 13, 2010, the USEPA issued a Final Rule that took effect on January 2, 2011, setting a threshold of 75,000 tons CO₂e per year for GHG emissions. New and existing industrial facilities that meet or exceed that threshold will require a permit after that date. On November 10, 2010, the USEPA published the “PSD and Title V Permitting Guidance for Greenhouse Gases.” The USEPA’s guidance document is directed at state agencies responsible for air pollution permits under the Federal Clean Air Act to help them understand how to implement GHG reduction requirements while mitigating costs for industry. It is expected that most states will use the USEPA’s new guidelines when processing new air pollution permits for power plants, oil refineries, cement manufacturing, and other large pollution point sources.

On January 2, 2011, the USEPA implemented the first phase of the Tailoring Rule for GHG emissions Title V Permitting. Under the first phase of the Tailoring Rule, all new sources of emissions are subject to GHG Title V permitting if they are otherwise subject to Title V for another air pollutant and they emit at least 75,000 tons CO₂e per year. Under Phase 1, no sources were required to obtain a Title V permit solely due to GHG emissions. Phase 2 of the Tailoring Rule went into effect July 1, 2011. At that time, new sources were subject to GHG Title V permitting if the source emits 100,000 tons CO₂e per year. Otherwise, they were subject to Title V permitting for another pollutant and must address GHG emissions increases higher than 75,000 tons CO₂e per year.

On July 3, 2012, the USEPA issued the final rule that retains the GHG permitting thresholds that were established in Phases 1 and 2 of the GHG Tailoring Rule. These emission thresholds determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In 2014, the U.S. Supreme Court held that USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit (*Utility Air Regulatory Group v. EPA* [134 S. Ct. 2427]). The Court also held that PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology (BACT).

Safer Affordable Fuel-Efficient Vehicles Rule

On September 27, 2019, the United States Environmental Protection Agency and the National Highway Safety Administration published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program.” The Part One Rule revokes California’s authority to set its own GHG emissions standards and sets zero-emission vehicle mandates in California. On April 30, 2020, the U.S. EPA and the National Highway Safety Administration published Part Two of the SAFE Vehicles Rule, which revised corporate average fuel economy and CO₂ emissions standards for model years 2021-2026 passenger cars and trucks such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the 2012 standards which required an approximately five percent annual increase (National Highway Traffic Safety Administration 2020). To account for the effects of the Part Two Rule, CARB released off-model adjustment factors on June 26, 2020 to adjust criteria air pollutant emissions outputs from the EMFAC model

State

CARB is responsible for the coordination and oversight of State and local air pollution control programs in California. California has numerous regulations aimed at reducing the State's GHG emissions. Key GHG initiatives are summarized below.

California Advanced Clean Car Standards

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles" (Hanemann 2008). On June 30, 2009, the USEPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" regulates model years from 2017 to 2025. The clean car standards are now grouped under the CARB's Advanced Clean Cars program, which was adopted by CARB in 2012 (CARB 2019a). The program, developed in coordination with the USEPA and National Highway Traffic Safety Administration (NHTSA), establishes emission requirements for passenger vehicles, model years 2012 through 2025, and manufacturer requirements to provide Zero Emissions Vehicles (ZEV).

Executive Order S-3-05

In 2005, the Governor issued Executive Order (EO) S-3-05, which identifies Statewide GHG emission reduction targets to achieve long-term climate stabilization as follows:

- Reduce GHG emissions to 1990 levels by 2020; and
- Reduce GHG emissions to 80 percent below 1990 levels by 2050.

In response to EO S-3-05, the CalEPA created the Climate Action Team (CAT), which in March 2006 published the first Climate Action Team Report (the "2006 CAT Report") (CalEPA 2006). The 2006 CAT Report identified a recommended list of strategies that the State could pursue to reduce GHG emissions. These are strategies that could be implemented by various State agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the State agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, increased use of alternative fuels, increased recycling, and landfill methane capture, etc. In April 2015, Governor Brown issued EO B-30-15, calling for a new target of 40 percent below 1990 levels by 2030.

Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels), and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations that require reporting and verification of statewide GHG emissions. The initial Scoping Plan was approved by CARB in December 2008 and included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defines CARB’s climate change priorities for the next five years and sets the groundwork to reach post-2020 statewide goals. The update highlights California’s progress toward meeting the “near-term” 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluates how to align the State’s longer-term GHG reduction strategies with other State policy priorities, such as water, waste, natural resources, clean energy and transportation, and land use (CARB 2018).

Senate Bill 32

Senate Bill 32 (SB 32) became effective on January 1, 2017 and requires CARB to develop technologically feasible and cost-effective regulations to achieve the targeted 40 percent GHG emission reduction by 2030 set in EO B-30-15. On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. To meet reduction targets, the 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) CO₂e by 2030 and two MT CO₂e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals are appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State.

Senate Bill X1 2 and Senate Bill 350

In April 2011, the governor signed SBX1 2 requiring California to generate 33 percent of its electricity from renewable energy by 2020. SB 350, the Clean Energy and Pollution Reduction Act of 2015, builds on the target set in 2020 and was approved in October 2015. SB 350 has two objectives: to increase the procurement of electricity from renewable sources from 33 percent to 50 percent by 2030 and to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

Senate Bill 97

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the *CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

Senate Bill 375

Senate Bill (SB) 375, signed in September 2008, enhances the state’s ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the state’s 18 major Metropolitan Planning Organizations (MPO) to prepare a “sustainable communities strategy” (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan

(RTP). In 2018 CARB revised the regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. BCAG's targets for reducing GHG emissions are a six percent reduction for 2020 and seven percent reduction for 2035.

Senate Bill 1383

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40% below 2013 levels
- Hydrofluorocarbons – 40% below 2013 levels
- Anthropogenic black carbon – 50% below 2013 levels

The bill also requires CalRecycle, in consultation with the State board, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Regional and Local

Butte County and several cities in the County, City of Oroville and City of Chico, have adopted climate action plans to address climate change. Butte county adopted a Climate Action Plan in February 2014. The City of Chico adopted a 2020 Climate Action Plan and the City of Oroville adopted a Community Climate Action Plan on March 31, 2015. Local climate action plans are described in more detail below. as described below. No other cities in Butte County have adopted CAPs.

Butte County Climate Action Plan

The Butte County Climate Action Plan (CAP) was adopted on February 25, 2014 in response to the County's 2030 General Plan efforts to address climate change and protect local quality of life. The CAP provides goals, policies, and programs aimed to address climate change adaptation and reduce GHG emissions goals as identified in AB 32 and SB 375. A key goal of the CAP is to reach the General Plan goal of 15 percent below 2006 GHG emissions by 2020, which would reduce emissions from all sources including vehicle miles traveled, sources of electricity, agricultural practices, and energy use (Butte County 2014). The CAP further addresses climate change with several adaptation measures. Adaptation (A) Measures address increased frequency and severity of wildfires, extreme heat, and flooding, as well as changing precipitation patterns and reduced water supply. Resiliency (R) Measures address local agriculture, ecosystems, and economy. Government Resiliency (GR) Measures address the effects of climate change on government operations and regional coordination (Butte County 2014). These measures are anticipated to help achieve the County's vision of thriving communities, a strong agricultural base, and healthy natural resources.

City of Chico 2020 Climate Action Plan

The City of Chico developed the 2020 Climate Action Plan to outline strategies for a substantial reduction of GHG emissions generated by local activities. Organized within a ten-year framework, the plan guides the growth of Chico and contains actions to reduce energy, water, fuel consumption, and waste. The plan is implemented in two phases, with a Phase 1 target to reach a ten percent reduction of emissions below the 2005 base year level by 2015 and a Phase 2 target to reach a 25 percent reduction of emissions below the 2005 base year level by 2020 (City of Chico 2012).

City of Oroville Community Climate Action Plan

The City of Oroville has a citywide target to reduce GHG emissions from community activities to 11 percent below 2010 levels by 2020. The City's Community CAP outlines a plan to address and adapt to potential economic, environmental, and social effects of climate change. Transportation is the largest source of community emissions with approximately 48 percent of all emissions origination from this sector. The Community CAP includes actions for reducing emissions by focusing on energy efficiency and renewable energy, land use and transportation, waste reduction, water conservation, and trees and agriculture (City of Oroville 2015).

4.6.2 Impact Analysis

a. Methodology and Significance Thresholds

Pursuant to the *CEQA Guidelines*, potentially significant impacts to agriculture would result if the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence on climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines* Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). To date, the Butte County Air Quality Management District (BCAQMD) has not formally adopted GHG CEQA thresholds but recommends compliance with a Qualified GHG Reduction Strategy, Lead Agency threshold, or consistency with goals of AB 32 or SB 32 for evaluating GHG impacts. As a result, this section uses three thresholds of significance (consistent with *CEQA Guidelines*). The 2020 RTP/SCS would result in significant impacts related to GHG emissions if it would:

- Increase per capita GHG emissions compared to baseline conditions (defined as the emissions inventory for 2018);
- Conflict with AB 32, SB 32, or SB 375 GHG emission reduction targets; and/or
- Conflict with applicable local GHG reduction plans.

For the GHG emissions impacts resulting from the 2020 RTP/SCS, this analysis evaluates potential impacts against both (1) a forecasted future baseline condition (year 2040) and (2) current, existing baseline conditions (year 2018), controlling for impacts caused by population growth and other factors that would occur whether or not the proposed plan is adopted. The year 2018 is used as the EIR baseline, as it is the most recent year for which accurate county-wide vehicle miles traveled (VMT) data is available. If county-wide per capita GHG emissions associated with the proposed plan

do not significantly exceed the 2018 baseline, impacts related to GHG emissions would not be significant.

The SB 375-based threshold is also included as it demonstrates BCAG's achievement of CARB-specified targets and consistency toward achieving statewide GHG reduction targets encoded in AB 32 and SB 32. For BCAG, the targets set by CARB are a six percent decrease in per capita GHG emissions for the planning year 2020 and a seven percent increase in per capita GHG emissions in planning year 2035, as compared to baseline per capita emissions levels in 2005. These targets apply to the BCAG region as a whole for all on-road light-duty trucks and passenger vehicle emissions.

The Executive Order S-3-05 2050 emissions reduction target was not used as a threshold of significance because the Executive Order is stated as a "goal" rather than an adopted GHG reduction plan within the meaning of *CEQA Guidelines* Section 15064.4(b)(2), and the 2050 target lies beyond the horizon year (2040) of the 2020 RTP/SCS. Although the Attorney General has advised that the Executive Order 2050 target can inform CEQA analysis, there is no requirement to use it as a threshold of significance. Furthermore, the 2020 RTP/SCS, in meeting its SB 375 target, is in line with the goals of the Executive Order, which builds on the emission reduction trajectory established by AB 32 (short-term goal for 2020) and SB 32 (mid-term goal for 2030), providing a long-term goal for 2050. In addition, total per capita regional GHG emissions for 2040 Project and No Project conditions are estimated and compared to per capita emission targets recommended in the 2017 Scoping Plan, which incorporate both the 2030 goal encoded in SB 32 and 2050 goal established in EO S-3-05. Thus, project consistency with EO S-3-05 is also addressed in the evaluation of project consistency with SB 32 targets.

Short-term Emissions

The California Air Pollution Control Officer Association (CAPCOA) does not discuss whether any of the suggested threshold approaches adequately address impacts from temporary construction activity. As stated in the CEQA and Climate Change white paper, "more study is needed to make this assessment or to develop separate thresholds for construction activity." (CAPCOA, 2008). In addition, the municipalities in Butte County have not identified any construction-related GHG emissions thresholds.

Construction-related emissions are speculative at the RTP/SCS level because such emissions are dependent on the characteristics of individual development projects. However, because construction associated with the transportation projects and land use scenario envisioned by the 2020 RTP/SCS would generate temporary GHG emissions (primarily due to the operation of construction equipment and truck trips), a qualitative analysis is provided below.

Long-term Emissions

Two basic quantities are required to calculate a given emissions estimate: an emission factor (CO₂) and an activity factor (VMT). In general, the emission factor is the amount of emissions generated by VMT. A county-wide, on-road mobile source emission estimate was calculated by adding the product of the vehicle activity (VMT and trips) generated by the land use pattern and transportation projects envisioned in the 2020 RTP/SCS (the preferred land use and transportation scenario as modeled by BCAG and Fehr & Peers) to the emissions factors contained in CARB's EMFAC2017 air quality model.

The EMFAC2017 model generates an output of CO₂ emissions, which were used as the overall indicator of GHG emissions, per the recommendations of the CARB SB 375 Regional Targets Advisory

Committee. In order to calculate the CO₂ emissions within EMFAC2017, VMT, vehicle trips, and VMT by speed class distributions were extracted from the Fehr & Peers traffic analysis for the baseline years (2005 and 2018) and target years (2020, 2035, and 2040) (Appendix D). The VMT speed bin data was then entered into the EMFAC2017 model. The CO₂ emissions associated with vehicle starts are accounted for in the EMFAC2017 model based on the distribution of vehicle starts by vehicle classification, vehicle technology class, and operating mode. EMFAC2017 adds these vehicle starts to the running emissions to compute total on-road mobile source emissions. The CO₂ emissions for the vehicle classes were then extracted from the EMFAC2017 output and reported. Per capita emissions rates were calculated by dividing total CO₂ emissions for each scenario by the region's population in each respective year.

For the purposes of SB 375 compliance, passenger vehicles analyzed include the following vehicle categories from CARB's EMFAC2014 air quality model: LDA (passenger cars), LDT1 (light-duty trucks, 0-3,750 pounds), LDT2 (light-duty trucks, 3,751-5,750 pounds), and MDV (medium-duty trucks, 5,751-8,500 pounds). In accordance with CARB guidance, the same methodology and version of EMFAC (i.e., EMFAC2014) was utilized for SB 375 modeling for the 2020 RTP/SCS to provide a consistent comparison of per capita CO₂ emissions with the SB 375 targets

b. Project Impacts and Mitigation Measures

Threshold: Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact GHG-1 CONSTRUCTION OF TRANSPORTATION IMPROVEMENT PROJECTS ENVISIONED BY THE 2020 RTP/SCS WOULD GENERATE SHORT-TERM GHG EMISSIONS. DUE TO THE INCLUSION OF A LARGER NUMBER OF PROJECTS, IMPLEMENTATION OF THE 2020 RTP/SCS WOULD POTENTIALLY RESULT IN HIGHER QUANTITIES OF SHORT-TERM GHG EMISSIONS THAN IMPLEMENTATION OF THE 2016 RTP/SCS. HOWEVER, WITH MITIGATION FROM THE 2016 RTP/SCS EIR, IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.

Construction activities associated with transportation improvement projects envisioned by the 2020 RTP/SCS would generate temporary short-term GHG emissions primarily due to the operation of construction equipment and truck trips. Construction-related emissions are speculative at the plan level because such emissions are dependent on the characteristics of individual development projects.

The 2020 RTP/SCS would add over 100 net new minor projects relative to the 2016 RTP/SCS. None of the modified or new projects on the 2020 RTP/SCS list would be substantially different from those on the 2016 RTP/SCS list in terms of geographical location, type of project, or size of project. In addition, the land use scenario envisioned by the 2020 RTP/SCS has not been altered compared to that contained in the 2016 RTP/SCS. Nevertheless, because the 2020 RTP/SCS includes more transportation projects, it would potentially result in a greater amount of short-term GHG emissions associated with their construction. With incorporation of Mitigation Measure GHG-1, from the 2016 RTP/SCS this impact would remain less than significant.

Mitigation Measures

The following mitigation measure included in the 2016 RTP/SCS, with minor typographical revisions and updates to reflect regulatory changes, would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and shall implement the following mitigation measure for transportation projects identified in Table 2-1 of Section 2. *Project*

Description. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

GHG-1 Construction Emissions Measures

BCAG shall and sponsor agencies can and shall ensure that diesel particulate exhaust from construction equipment apply the following applicable GHG-reducing measures recommended by the Butte County Air Quality Management District (BCAQMD):

- Fuel all off-road and portable diesel-powered equipment with CARB certified motor vehicle diesel fuel;
- Use diesel construction equipment meeting CARB's Tier 2 certified engines or cleaner (i.e., Tier 3 or 4) off-road heavy-duty diesel engines, and comply with State Off-Road Regulation;
- Use on-road heavy-duty trucks that meet CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures may be eligible by proving alternative compliance;
- Electrify equipment when feasible;
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and
- Use alternatively fueled construction equipment on site where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel.

Significance After Mitigation

With the implementation of the above mitigation, impacts related to short-term GHG emissions would be less than significant, consistent with the findings of the 2016 RTP/SCS.

Impact GHG-2 IMPLEMENTATION OF THE 2020 RTP/SCS WOULD NOT INCREASE GHG EMISSIONS COMPARED TO THE 2040 NO PROJECT SCENARIO AND 2018 BASELINE. THIS IMPACT WOULD REMAIN LESS THAN SIGNIFICANT.

Projected GHG emissions for the year 2040 under the proposed 2020 RTP/SCS were compared to the 2018 baseline and to the year 2040 under the future No Project scenario, a scenario in which the new transportation improvements identified in the proposed plan are not implemented. Instead, under the No Project scenario, only those improvement projects included in the existing adopted 2016 RTP/SCS would occur. GHG emissions for the 2020 RTP/SCS were calculated using CARB's EMFAC2017 air quality model based on the VMT that would be generated as a result of the 2016 RTP/SCS (refer to Section 4.9, *Transportation and Circulation*). Table 4.6-1 summarizes the plan's transportation-related emissions from all vehicle classes. An analysis of all vehicle classes is provided to determine the significance of total GHG emissions in accordance with the *CEQA Guidelines*. As such, if the 2020 RTP/SCS does not result in a significant increase in GHG emissions, impacts would be less than significant. This is independent of the SB 375 analysis and regional targets for per-capita transportation emissions from passenger vehicles, which are analyzed under Impact GHG-3 below. As shown in Table 4.6-1, the project would result in lower emissions than the 2018 baseline and the 2040 No Project scenario. Therefore, impacts would remain less than significant similar to the 2016 RTP/SCS.

Table 4.6-1 Per Capita Carbon Dioxide Emission Comparison

Scenario	VMT	CO ₂ Emissions (lbs/year) ¹	Percent Change
2018 Baseline	4,705,417	1,799,669,000	N/A
2040 Project	5,332,327	1,237,861,000	-31%
2040 No Project	6,216,655	1,445,108,000	-20%

¹The on-road mobile source CO₂ emissions estimates for the 2020 RTP/SCS were calculated using CARB’s EMFAC2017 emission inventory model. VMT data were provided from Fehr and Peers using the BCAG’s Traffic Demand Model (see Section 4.9, *Transportation and Circulation*). VMT data for GHG analysis excludes pass-through trips from vehicles travelling through Butte County that do not have an origin or destination within the county.

Mitigation Measures

None required.

IMPACT GHG-3 IMPLEMENTATION OF THE 2020 RTP/SCS WOULD NOT INTERFERE WITH THE GHG EMISSIONS GOALS OF AB 32, SB 32, OR SB 375. THEREFORE, THIS IMPACT WOULD REMAIN LESS THAN SIGNIFICANT.

As indicated in the 2017 Scoping Plan, SB 375 comprises one of California’s key strategies to reduce GHG emissions from transportation sources, which generate the majority of California’s GHG emissions. SB 375 requires that local MPOs develop integrated land use and transportation plans to meet GHG reduction targets for cars and light trucks established by CARB. CARB is required to review and revise reduction targets every eight years, allowing for increasingly stringent reduction targets over time and updated time horizons. According to the 2017 Scoping Plan, with implementation of SB 375 and other strategies outlined in the 2017 Scoping Plan, California will be able to meet statewide targets set forth in AB 32 and SB 32. Table 4.6-2 summarizes the 2020 RTP/SCS’s per capita transportation-related emissions from passenger vehicles.

Table 4.6-2 2020 RTP/SCS Per Capita Carbon Dioxide Emission Comparison: Passenger Vehicles

Scenario	VMT	CO ₂ Emissions (lbs/day) ¹	Population ³	Per Capita CO ₂ Emissions (lbs/day)	Percent Change
2005 Baseline ²	4,710,611	3,731,600	208,322	17.91	N/A
2020 Project	4,343,919	3,394,800	223,157	15.21	-15%
2035 Project	5,181,813	4,050,400	251,863	16.08	-10%

¹The on-road mobile source CO₂ emissions estimates for the 2020 RTP/SCS were calculated using CARB’s EMFAC2014 emission inventory model. VMT data were provided from Fehr & Peers using the BCAG’s Traffic Demand Model (see Section 4.9, *Transportation and Circulation*). VMT data for GHG analysis excludes pass-through trips from vehicles travelling through Butte County that do not have an origin or destination within the county.

²2005 baseline assumes the same growth and population as in the 2016 RTP/SCS.

³Household population, excludes group quarters population, as required by CARB

See Appendix B for modeling results

Note: Numbers may change slightly following review with CARB

As shown in Table 4.6-2, the 2005 per capita GHG emissions from passenger vehicles were estimated for the Plan Area to be approximately 18 pounds³ per day. Under the 2020 RTP/SCS, per capita GHG emissions in 2020 would be approximately 15 pounds per day (a decrease of

approximately 15 percent from 2005 levels) and in 2035 would be approximately 16 pounds per day (a decrease of approximately 10 percent from 2005 levels). Thus, the SB 375 targets would be met, as the per capita GHG emissions in 2020 and 2035 would not exceed the targets set by CARB. It is important to note that population is expected to increase and passenger vehicle related GHG emissions would continue to occur throughout the county, regardless of whether the proposed 2020 RTP/SCS is adopted. As demonstrated above, the proposed 2020 RTP/SCS would contribute to an overall reduction in passenger vehicle related emissions. The projections in Table 4.6-2 do not include any additional measures from the 2017 Scoping Plan to further reduce passenger vehicle GHG emissions and are, therefore, conservative. Application of Pavley fuel efficiency standards and low carbon fuel standards, both 2017 Scoping Plan measures, are anticipated to reduce levels even further. Implementation of the 2020 RTP/SCS would help the region achieve its SB 375 reduction targets for years 2020 and 2035 as well as help the state achieve its AB 32 and SB 32 GHG emissions reduction targets. Therefore, impacts would remain less than significant.

Mitigation Measures

None required.

Threshold: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
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Impact GHG-3 THE 2020 RTP/SCS INCLUDES TRANSIT AND ACTIVE TRANSPORTATION PROJECTS THAT WOULD REDUCE VMT AND ASSOCIATED GHG EMISSIONS. IN ADDITION, THE 2020 RTP/SCS WOULD BE CONSISTENT WITH STATEWIDE REDUCTION TARGETS IDENTIFIED IN AB 32 AND SB 32. THEREFORE, THE PROJECT WOULD NOT CONFLICT WITH OTHER STATEWIDE AND LOCAL GHG REDUCTION PLANS AND POLICIES. THIS IMPACT WOULD REMAIN LESS THAN SIGNIFICANT.

As discussed in Impact GHG-2 above, the proposed 2020 RTP/SCS was determined to be consistent with the goals of AB 32 and SB 32. The projects and policies identified in the 2020 RTP/SCS are designed to align transportation and land use planning to reduce VMT and transportation-related GHG emissions. Implementation of the proposed 2020 RTP/SCS would help the region achieve its SB 375 GHG emissions reduction target, therefore contributing to the state's overall GHG emissions reduction goals identified in AB 32 and SB 32. Since the proposed 2020 RTP/SCS is consistent with the goals of AB 32, SB 32, and SB 375, it would not conflict with the goals of local reduction plans, including the Butte County Climate Action Plan, City of Chico Climate Action Plan, and City of Oroville Community Climate Action Plan discussed above, which are designed to meet the same state goals.

The 2017 Scoping Plan also includes a number of State goals for reducing VMT and GHG emissions relevant to the 2020 RTP/SCS, including the following:

- Promote all feasible policies to reduce VMT, including:
 - Land use and community design that reduce VMT,
 - Transit oriented development,
 - Complete street design policies that prioritize transit, biking, and walking, and
 - Increasing low carbon mobility choices, including improved access to viable and affordable public transportation and active transportation opportunities.

- Promote transportation fuel system infrastructure for electric, fuel-cell, and other emerging clean technologies that is accessible to the public where possible, and especially in underserved communities, including environmental justice communities.
- Increase the number, safety, connectivity, and attractiveness of biking and walking facilities to increase use.
- Promote shared-use mobility, such as bike sharing, car sharing and ride-sourcing services to bridge the “first mile, last mile” gap between commuters’ transit stops and their destinations.
- Quadruple the proportion of trips taken by foot by 2030
- Strive for a nine-fold increase in the proportion of trips taken by bicycle by 2030 (from a baseline of the 2010–2012 California Household Travel Survey).
- Strive, in passenger rail hubs, for a transit mode share of between 10 percent and 50 percent, and for a walk and bike mode share of between 10 percent and 15 percent

The 2020 RTP/SCS includes active transportation and transit projects that would support reductions in GHG emissions from passenger vehicles. Therefore, the 2020 RTP/SCS would support applicable goals included in the 2017 Scoping Plan to reduce GHG emissions from transportation sources.

The 2020 RTP/SCS alone is not intended to meet the AB 32 and SB 32 emissions reduction targets. According to the 2017 Scoping Plan, with implementation of SB 375 and other strategies outlined in the 2017 Scoping Plan, California will be able to meet statewide targets set forth in AB 32 and SB 32. Given that the primary statutory responsibility of the 2020 RTP/SCS is to achieve SB 375 targets, which it does, and support applicable goals included in the 2017 Scoping Plan, the 2020 RTP/SCS has successfully contributed its share to meeting AB 32 and SB 32 targets. Therefore, the project would not conflict with any applicable GHG reduction plans and policies. This impact would remain less than significant.

Mitigation Measures

None required.

c. Specific Projects That May Result in Impacts.

All proposed projects listed in Table 2-1 in Section 2, *Project Description*, would have the potential to result in GHG emissions. All projects that include a construction component would be associated with Impact GHG-1. Projects that include roadway and transit features and/or expansions would be associated with Impacts GHG-2 through GHG-4. Additional specific analysis will need to be conducted as the individual transportation projects and any land use projects overseen by Butte County or the incorporated cities are designed and implemented in order to determine the actual magnitude of impact. However, the 2020 RTP/SCS as a whole is designed to reduce VMT and per capita transportation-related GHG emissions in accordance with AB 32, SB 32, and SB 375. Since plan level emissions meet these targets, all planned 2020 RTP/SCS projects remain below the thresholds of significance.

4.7 Noise

This section analyzes noise impacts from buildout of the 2020 RTP/SCS. Impacts related to noise from construction, building operations, traffic, and flight operations are addressed.

4.7.1 Setting

a. Overview of Sound Measurement

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013a).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz and less sensitive to frequencies around and below 100 Hertz (Kinsler, et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dBA; reducing the energy in half would result in a 3-dBA decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud ([10.5x the sound energy] Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner in which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013a). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013a). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011).

Structures can substantially reduce exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (Leq); it considers both duration and sound power level. Leq is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically, Leq is summed over a one-hour period. Lmax is the highest RMS sound pressure level within the sampling period, and Lmin is the lowest RMS sound pressure level within the measuring period (Crocker 2007).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (Ldn), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours; it is also measured using Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013a). Noise levels described by Ldn and CNEL usually differ by about 1 dBA. The relationship between the peak-hour Leq value and the Ldn/CNEL depends on the distribution of traffic during the day, evening, and night. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 dBA, while areas near arterial streets are in the 50 to 60-plus CNEL range. Normal conversational levels are in the 60 to 65-dBA Leq range; ambient noise levels greater than 65 dBA Leq can interrupt conversations (Federal Transit Administration [FTA] 2018).

b. Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body starts from a low frequency of less than 1 Hz and goes to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the

source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2013b). When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may actually amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2013b).

c. Regulatory Setting

Federal

There are no federal noise requirements or regulations that apply directly to the implementation of the 2020 RTP/SCS. However, there are federal regulations that influence the audible landscape, especially for projects where federal funding is involved. For example, the FHWA requires abatement of highway traffic noise for highway projects through rules in the Code of Federal Regulations (23 CFR Part 772). Each agency recommends thorough noise and vibration assessments through comprehensive guidelines for any highway, mass transit, or high-speed railroad projects that would pass by residential areas.

State

Title 24 of the California Code of Regulations codifies Sound Transmission Control requirements establishing uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Specifically, Section 1207.4 in Title 24 states that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA CNEL/ L_{dn} in any habitable room of a new building.

While there are no State standards for vibration, Caltrans establishes vibration risk for structures. For continuous, frequent, and intermittent vibration, Caltrans considers the architectural damage risk level to be somewhere between 0.08 and 0.6 inches per second (in/sec) PPV depending on the type of building that is affected (Caltrans 2013).

Local Regulations

Butte County and the incorporated Cities of Chico, Oroville, Gridley, Biggs, and Town of Paradise have established policies and regulations concerning noise that could adversely affect noise-sensitive land uses in their respective General Plan Noise Elements. The Noise Elements establish objectives and implements policies intended to limit community exposure to excessive noise levels. Noise sources such as roadways, rails and airports are identified in each Noise Element. Noise land use compatibility guidelines listed by the California Governor's Office of Planning and Research are typically used for reference.

4.7.2 Impact Analysis

a. Methodology and Thresholds of Significance

Pursuant to the *CEQA Guidelines*, potentially significant noise impacts would result if the project would:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- Generate excessive groundborne vibration or groundborne noise levels
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels

This SEIR augments the previously certified EIR for the 2016 RTP/SCS and analyzes only the changes in the 2016 RTP/SCS or changes in circumstances under which the 2020 RTP/SCS projects would be implemented since certification of the previous 2016 EIR. Therefore, for issue areas where impacts would be similar to or less than the impact level identified in the previous 2016 EIR, no further analysis is warranted and Threshold 3 is addressed in Section 4.12, *Other Environmental Issue Areas Analyzed*. As described therein, there are three airports within Butte County (Paradise Airport, Chico Municipal Airport, and Ranchoero Airport), but the 2020 RTP/SCS would not expose people to excessive airport noise.

Since this document analyzes noise impacts on a program level only, project-level analyses for various projects within the 2020 RTP/SCS will be necessary in the future. The project proponent or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures prior to construction. The analysis of potential impacts should include an assessment of all applicable standards, including those established by local jurisdictions, counties, the state of California, and federal agencies, where appropriate.

Local Thresholds

Butte County and the incorporated cities within the County each have their own noise standards. Noise standards for the County and the cities typically apply land-use compatibility criteria of 60-65 dBA L_{dn} as being the normally acceptable range for new residential developments, and interior noise criteria of 45 dBA L_{dn} .

b. Project Impacts and Mitigation Measures

Threshold 1: Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance?

IMPACT N-1 CONSTRUCTION OF INDIVIDUAL PROJECTS FACILITATED BY THE 2020 RTP/SCS WOULD TEMPORARILY GENERATE INCREASED NOISE LEVELS RELATIVE TO THE 2016 RTP/SCS, POTENTIALLY AFFECTING NEARBY NOISE-SENSITIVE LAND USES. CONSTRUCTION NOISE MAY STILL EXCEED NOISE STANDARDS AND MITIGATION WOULD REDUCE IMPACTS TO A LESS THAN SIGNIFICANT LEVEL.

The operation of equipment during the construction of roadway infrastructure, as well as development projects envisioned by the 2020 RTP/SCS, would result in temporary increases in noise in the immediate vicinity of individual construction sites. As shown in Table 4.7-1 average noise levels associated with the use of heavy equipment at construction sites can range from about 76 to 101 dBA at 50 feet from the source, depending upon the types of equipment in operation at any given time and the phase of construction. The highest noise levels generally occur during excavation and foundation development, which involve the use of such equipment as backhoes, bulldozers, shovels, and front end loaders.

Table 4.7-1 Typical Noise Levels for Construction Equipment

Equipment	Estimated Noise Levels at Nearest Sensitive Receptors (dBA L _{eq})		
	25 feet	50 feet	100 feet
Air Compressor	86	80	74
Backhoe	86	80	74
Concrete Mixer	91	85	79
Dozer	91	85	79
Grader	91	85	79
Jack Hammer	94	88	82
Loader	86	80	74
Paver	91	85	79
Pile-drive (Impact)	107	101	95
Pile-driver (Sonic)	101	95	89
Roller	91	85	79
Saw	82	76	70
Scarified	89	83	77
Scraper	91	85	79
Truck	90	84	78

Source: FTA 2018

Noise generated by construction activity would vary depending on the project and intensity of equipment use. Roadway widening projects such as the Bruce Road, Eaton Road, Midway, or Esplanade widening projects, would likely require the operation of many pieces of heavy-duty equipment that generate high noise levels. Alternatively, repainting/restriping such as that included in the Central Gridley Pedestrian Connectivity and Equal Access Project and the Highway Safety Improvement Program, would typically be less intense requiring minimal, if any, use of heavy equipment. This conservative analysis assesses construction noise based on the operation of heavy-duty equipment. Noise levels from point sources such as construction sites typically attenuate at a rate of about 6 dBA per doubling of distance. Therefore, areas within 800 feet of construction site with heavy-duty equipment may be exposed to noise levels exceeding 65 dBA. Impacts related to construction noise would remain significant but mitigable.

Mitigation Measures

The following mitigation measure included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

N-1 Construction Noise Reduction

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for transportation projects. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

- a) **Equipment Staging Areas.** Sponsor agencies of 2020 RTP/SCS projects shall ensure that, where residences or other noise sensitive uses are located within 800 feet of construction sites, appropriate measures shall be implemented to ensure consistency with local noise ordinance requirements relating to construction. Specific techniques may include, but are not limited to, restrictions on construction timing, use of sound blankets on construction equipment, and the use of temporary walls and noise barriers to block and deflect noise.
- b) **Electrically-Powered Tools and Facilities.** If a particular project within 800 feet of sensitive receptors requires pile driving, the sponsor agency in which this project is located shall require the use of pile drilling techniques instead, where feasible. This shall be accomplished through the placement of conditions on the project during its individual environmental review.
- c) **Smart Back-up Alarms.** Sponsor agencies shall ensure that equipment and trucks used for project construction utilize the best available noise control techniques (including mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds).
- d) **Additional Noise Attenuation Techniques.** Sponsor agencies shall ensure that impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction be hydraulically or electrical powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, use of an exhaust muffler on the compressed air exhaust can lower noise levels from the exhaust by up to about 10 dBA. When feasible, external jackets on the impact equipment can achieve a reduction of 5 dBA. Whenever feasible, use quieter procedures, such as drilling rather than impact equipment operation.
- e) **Stationary Noise Sources.** Locate stationary noise sources as far from sensitive receptors as possible. Stationary noise sources that must be located near existing receptors will be adequately muffled.

Significance After Mitigation

Mitigation Measures N-1(a)-(e) would assure that construction noise impacts would not be substantial through a variety of measures to minimize exposure of existing receptors. If a project is located near a sensitive receptor, the project sponsor would ensure that noise reduction measures are implemented during construction that would reduce noise levels below local and/or Caltrans standards. With implementation of local noise control requirements and Mitigation Measure N-1, impacts would remain less than significant, consistent with the findings for the 2016 RTP/SCS EIR.

Threshold 1: Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance?

IMPACT N-2 IMPLEMENTATION OF THE 2020 RTP/SCS WOULD INCREASE OPERATIONAL NOISE SOURCES INCLUDING TRAFFIC-GENERATED NOISE LEVELS ON HIGHWAYS AND ROADWAYS, RELATIVE TO THE 2016 RTP/SCS, WHICH COULD EXPOSE EXISTING SENSITIVE RECEPTORS TO NOISE IN EXCESS OF NORMALLY ACCEPTABLE LEVELS. IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT WITH MITIGATION.

Traffic Noise

Roadways and traffic noise are the most prevalent source of ambient noise in Butte County (Butte County General Plan 2030 Health and Safety Element 2012). The noise generated from vehicles using roads within the unincorporated areas of the county and within the incorporated cities is governed primarily by the number of vehicles, type of vehicles (mix of automobiles, trucks, and other large vehicles), and speed. Major traffic noise sources include State Routes 99, 70, 32, 149, 162, and 191. Nearly all of these roadways reach noise levels exceeding 65 dBA CNEL within 100 feet from the centerline of the freeway due to both the high traffic volumes experienced and the high speed of traffic (Butte County General Plan 2030 Settings and Trends 2007).

The 2020 RTP/SCS includes several projects that would potentially increase traffic noise levels by increasing traffic on area roadways. Such projects include bridge construction and modification (such as those in the Local Highway Bridge Program) and connector roads, as well as improvements to roads that would allow increased traffic volumes. Such projects would not in themselves introduce new traffic, but rather are intended to relieve current or projected future traffic congestion or unacceptable safety conditions. However, in some cases, widening and extension projects would accommodate additional traffic volumes and/or relocate noise sources closer to receptors. Therefore, traffic noise impacts would be potentially significant. It should be noted that while traffic may increase in certain locations, the expected number of annual vehicle miles traveled (VMT) in 2040 would be reduced from 6,216,655 annually without the RTP-SCS ('No Project' scenario) to 5,332,327 annually with the RTP/SCS, a reduction of approximately 884,328 VMT annually. As the VMT decreases, noise associated with VMT would also decrease.

Airports

The 2020 RTP/SCS includes roadway widening on Cohasset Road near Chico Municipal Airport. This project, and other 2020 RTP/SCS projects would not directly or indirectly increase aircraft operations at public use airports in the county. Any future infill project under the 2020 RTP/SCS located within an airport land use plan zone and/or applicable noise contour would be subject to the policies of the Airport Land Use Commission pertaining to noise exposure, which would ensure that noise attenuation features are implemented into the project as necessary. Therefore, the 2020

RTP/SCS would not increase ambient noise levels near airports. No significant impacts due to aircraft operations would occur.

Transit Projects

Proposed projects and programs include improvements designed to enhance bus service. Improvements may include the construction of bus stop amenities, transfer facilities, the provision of replacement buses, computer equipment, fare equipment, security upgrades, and investments in para-transit and elderly services. New transit trips would be generated where demand for service is needed and some existing routes may be removed or replaced from the transit schedule. Thus, transit related traffic noise would increase along some routes but decrease on others. Overall, transit noise is not expected to be significantly greater than normal roadway noise and VMT overall would decrease as a result of the proposed project since the RTP would increase ridership of transit; therefore, traffic noise would also decrease incrementally. Therefore, the overall change in the noise environment would not be significant.

Rail Projects

There are no rail-related projects included in the 2020 RTP/SCS. Since there would be no increase in train trips, there would be no increase ambient noise levels in the vicinity of the rail line. There would be no overall change in the noise environment.

Mitigation Measures

The following mitigation measure included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

N-2 Traffic Noise Reduction

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for transportation projects. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

- a) Sponsor agencies of RTP/SCS projects shall complete detailed noise assessments using applicable guidelines (e.g., Federal Transit Administration Transit Noise and Vibration Impact Assessment for rail and bus projects and the California Department of Transportation Traffic Noise Analysis Protocol for roadway projects). The project sponsor shall ensure that a noise survey is conducted to determine potential alternate alignments which allow greater distance from, or greater buffering of, noise-sensitive areas. The noise survey shall be sufficient to indicate existing and projected noise levels, to determine the amount of attenuation needed to reduce potential noise impacts to applicable State and local standards. This shall be accomplished during the project's individual environmental review as necessary.
- b) Where new or expanded roadways or transit are found to expose receptors to noise exceeding normally acceptable levels, the individual project lead agency shall consider various sound attenuation techniques. The preferred methods for mitigating noise impacts will be the use of appropriate setbacks and sound attenuating building design, including retrofit of existing structures with sound attenuating building materials where feasible. In instances where use of these techniques is not feasible, the use of sound barriers (earthen berms, sound walls, or some combination of the two) will be considered. Long expanses of walls or fences should be interrupted with offsets and provided with accents to prevent monotony. Landscape pockets

and pedestrian access through walls should be provided. Whenever possible, a combination of elements should be used, including open grade paving, solid fences, walls, and, landscaped berms. Determination of appropriate noise attenuation measures will be assessed on a case-by-case basis during a project's individual environmental review pursuant to the regulations of the applicable lead agency.

Significance After Mitigation

Mitigation Measures N-2(a) and (b) would require attenuation meeting state and local standards to assure that exposure of sensitive receptors to mobile source noise levels would not be significant. If a project is located near a sensitive receptor, the project sponsor would ensure that the facility is designed and constructed to avoid or minimize exposure to unacceptable noise levels. Projects would either be placed outside an appropriate setback distance, implement sound attenuating building design, and/or implement sound barriers to avoid substantial adverse effects. With implementation of the recommended programmatic measures, similar to the findings in the 2016 RTP/SCS EIR impacts would be less than significant.

Threshold 2: Would the project result in excessive groundborne vibration or groundborne noise levels?
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IMPACT N-3 CONSTRUCTION OF NEW OR MODIFIED PROJECTS FACILITATED BY THE 2020 RTP/SCS COULD TEMPORARILY GENERATE GROUNDBORNE VIBRATION, SIMILAR TO THE 2016 RTP/SCS, POTENTIALLY AFFECTING NEARBY LAND USES. POLICIES IN THE 2020 RTP/SCS WOULD LIMIT VIBRATION DISTURBANCE AND ENSURE THAT HIGH VIBRATION LEVELS DURING WORKING CONSTRUCTION HOURS TO THE EXTENT FEASIBLE. HOWEVER, CONSTRUCTION VIBRATION FROM PILE-DRIVERS MAY DISTURB PEOPLE OR DAMAGE BUILDINGS, AND IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT WITH MITIGATION.

Construction-related vibration has the potential to damage structures, cause cosmetic damage (e.g., crack plaster), or disrupt the operation of vibration-sensitive equipment. Vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. Heavy construction operations can cause substantial vibration near the source. Table 4.7-2 shows vibration levels associated with typical construction equipment. Similar to construction noise, vibration levels would be variable depending on the type of construction project and related equipment use.

Typical project construction activities, such as the use of jackhammers, other high-power or vibratory tools, compactors, and tracked equipment, may also generate substantial vibration (i.e., greater than 0.2 inches per second PPV) in the immediate vicinity, typically within 15 feet of the equipment. Through the use of scheduling controls, typical construction activities would be restricted to hours with least potential to affect nearby properties. Thus, perceptible vibration can be kept to a minimum and not result in human annoyance or structural damage.

Some specific construction activities result in higher levels of vibration. Pile driving has the potential to generate the highest vibration levels and is the primary concern for structural damage when it occurs within 50 feet of structures. Vibration levels generated by pile driving activities would vary depending on project conditions, such as soil conditions, construction methods and equipment used. Depending on the proximity of existing structures to each construction site, the structural soundness of the affected buildings and construction methods, vibration caused by pile driving or other foundation work with a substantial impact component such as blasting, rock or caisson drilling, and site excavation or compaction may be high enough to be perceptible within 100 feet and damage existing structures within 50 feet. Impacts related to vibration from construction activities would remain significant but mitigable.

Table 4.7-2 Vibration Source Levels for Construction Equipment

Equipment	Approximate Vibration Level (VdB)				
	25 feet from Source	50 feet from Source	100 feet from Source	200 feet from Source	
Caisson Drilling	87	78	69	60	
Jackhammer	79	70	61	52	
Large Bulldozer	87	78	69	60	
Loaded Truck	86	77	68	58	
Pile Driver (impact)	Upper range	112	103	94	84
	Typical	104	95	86	77
Pile Driver (sonic)	Upper range	105	96	87	78
	Typical	93	84	75	65
Small Bulldozer	58	48	39	30	
Vibratory Roller	94	85	76	67	

Source: FTA 2018

Mitigation Measure

Mitigation Measure N-1(b), above, would reduce impacts to a less than significant level.

Significance After Mitigation

Mitigation Measure N-1(b) would require substitution of pile drilling instead of pile driving to reduce vibration impacts. With implementation of the recommended programmatic measures vibration impacts would remain less than significant.

d. Specific 2020 RTP/SCS Projects that May Result in Impacts

As discussed above, the 2020 RTP/SCS would result in less than significant noise impacts with mitigation, similar to the 2016 RTP/SCS. Although some transportation network improvements, such as road widening or extension projects, would require noise mitigation measures for construction noise and vibration, it cannot feasibly be determined whether such mitigation would be necessary without project-specific construction details. Therefore, all proposed projects listed in Table 2-1 in Section 2.0, *Project Description*, would have the potential to result in noise impacts. Mitigation Measures N-1 and N-2 from the 2016 RTP/SCS discussed above would apply to proposed projects listed in Table 2-1. Additional specific analysis will need to be conducted as the individual projects are implemented in order to determine the actual magnitude of impact.

4.8 Population and Housing

This section evaluates the impacts to the regional housing supply and population growth associated with implementation of the 2020 RTP/SCS.

4.8.1 Setting

a. Camp Fire Population Displacement

Between November 8 and November 25, 2018, a 153,336-acre wildfire referred to as the Camp Fire destroyed more than 14,600 residences and displaced the majority of the population of the Town of Paradise in Butte County (Miller 2019). The fire caused residents of Butte County whose homes were destroyed to temporarily or permanently relocate to other cities within the County. Specifically, the cities of Chico and Oroville have experienced a significant population increase between 2018 and 2020 as a result of the Camp Fire (BCAG 2019).

b. Growth Forecasting

The current population, housing and employment forecast estimates for Butte County were developed using professionally accepted methodologies for long-range forecasting. BCAG consulted the Department of Finance (DOF) projections in addition to a variety of sources specific to local jurisdictions, and adjusted the forecasts to compensate for the re-distribution and re-population of the Camp Fire burn area.

The Draft 2018-2040 Provisional Long-Term Regional Growth Forecasts (Draft 2018-2040 Growth Forecast) (BCAG 2019) projects the region's population, housing and employment to 2040. This projection is provisional because the impacts of the Camp Fire (which occurred in 2018) to population, housing, and employment are still being assessed. The Draft 2018-2040 Growth Forecast is used to support regional planning efforts such as the Regional Travel Demand Model and the 2020 RTP/SCS as well as local planning such as the development of General Plans and long-range plans.

The Draft 2018-2040 Growth Forecast predicts that housing in the County will increase from 99,353 units in 2018 to between 110,391 and 120,474 units in 2040 (an approximately 11 and 21 percent increase). Population is predicted to increase from 227,896 people in 2018 to between 255,392 and 277,397 people in 2040. Employment is predicted to increase from 82,900 jobs in 2018 to between 88,313 and 96,379 jobs in 2040 (BCAG 2019).

c. Existing Population, Housing, and Employment

Existing population, housing units and employment for unincorporated Butte County and the five incorporated cities are shown in Table 4.8-1. As of 2018 (prior to the Camp Fire)¹, the County contains 227,896 residents, 99,353 housing units, and 82,900 jobs, with a jobs-to-housing ratio of 0.83 (BCAG 2019).

¹ More recent 2020 population, housing, and jobs numbers are still being collected to determine statistics after the Camp Fire

Table 4.8-1 2018 Population and Housing, and 2017 Employment in Butte County

Jurisdiction	Population	Housing Units	Jobs ¹
Biggs	1,894	692	–
Chico	92,861	39,810	–
Gridley	6,921	2,517	–
Oroville	18,091	7,333	–
Paradise	26,423	13,091	–
Unincorporated County	81,706	35,910	–
Total County	227,896	99,353	82,900

¹ No City or unincorporated County jobs data was available.

Source: BCAG 2019

d. Regulatory Setting

Federal Uniform Relocation and Real Property Acquisition Policies Act of 1970

The Federal Uniform Relocation and Real Property Acquisition Policies Act (URA), 42 USC Section 4601 et seq., passed by Congress in 1970, is a federal law that establishes minimum standards for federally funded programs and projects that require the acquisition of real property (real estate) or displace persons from their homes, businesses, or farms. The URA's protections and assistance apply to the acquisition, rehabilitation, or demolition of real property for federal or federally funded projects (HUD 2019).

Temporary Federal Housing in Butte County

In June 2019 in response to the Camp Fire, the Federal Emergency Management Agency (FEMA) began providing leased space in a commercial housing site, which will eventually serve as temporary housing for up to 1,000 households (FEMA 2019). This housing option is a temporary measure meant to provide service as previous residents work towards permanent housing solutions. This temporary solution is limited to 18 months from the date the Presidential Disaster Declaration was approved (November 12, 2018).

California Relocation Assistance Act

The California Relocation Assistance Act of 1971 (Government Code Section 7260 et seq.) is similar to the Uniform Relocation Assistance Act of 1970 (federal). However, it applies to State and local programs and projects that receive State funding, regardless of whether they receive federal funding.

County and City General Plans

Butte County, in addition to the incorporated cities and towns within the county, maintain General Plans and associated Housing Elements applicable to those jurisdictions. The Butte County General Plan applies to the unincorporated areas of the county, while the city and town General Plans apply within the city and town boundaries, in addition to identified Spheres of Influence. The Housing Elements provide each agency's plan to meet the Regional Housing Needs Allocation goals for the number of new units and percentage of affordable units needed.

4.8.2 Impact Analysis

a. Methodology and Significance Thresholds

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether a project's impacts would have a significant impact to population and housing:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); and/or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

b. Project Impacts and Mitigation Measures

This section describes generalized impacts associated with proposed transportation improvements and the future land use scenario under the 2020 RTP/SCS. Due to the programmatic nature of the 2020 RTP/SCS, a precise, project-level analysis of the specific impacts associated with individual transportation and land use projects is not possible. In general, however, implementation of proposed transportation improvements and future projects under the land use scenario envisioned by the 2020 RTP/SCS could result in the impacts as described in the following section.

The 2016 RTP/SCS EIR addressed potential population and housing impacts of the 2016 RTP/SCS in the Initial Study included as part of Appendix A. As a result of countywide impacts from the Camp Fire, population and housing impacts have been added as a standalone section of this SEIR to address changes to the County's population and housing supply as a result of the fire.

Threshold: Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Impact PH-1 THE 2020 RTP/SCS WOULD NOT RESULT IN SUBSTANTIAL POPULATION GROWTH IN BUTTE COUNTY. THIS IMPACT IS LESS THAN SIGNIFICANT.

From 2018 to 2040, the County's total population is forecasted to increase by up to 38,068 residents for a total of up to 265,964 total residents.² Table 4.8-2 shows the forecasted population growth for the region as a whole and by jurisdiction.

² These estimates incorporate changes anticipated as a result of the Camp Fire.

Table 4.8-2 Forecasted BCAG Population Growth 2018-2040 (Medium Scenario)

Jurisdiction	2018	2020	2030	2040	Population Change (2018-2040)	Percent Increase (2018-2040)
Biggs	1,894	2,123	2,354	2,595	2,073	37
Chico	92,861	111,892	107,712	113,303	113,303	22
Gridley	6,921	7,482	8,770	9,810	9,308	42
Oroville	18,091	22,102	21,466	22,785	12,725	26
Paradise	26,423	5,037	19,413	22,902	4,924	-13
Unincorporated	81,706	80,057	88,597	94,569	30,477	16
Total County	227,896	228,694	248,313	265,964	38,068	17

Source: BCAG 2019

Regional population is forecasted to increase by up to 17 percent from 2018 to 2040. Between 2018 and 2040, the BCAG region would grow by up to 38,068 people; up to 15,882 housing units; and up to 9,288 jobs. As shown above, population growth in the cities of Biggs and Gridley would increase at a faster rate than the rest of the BCAG region. In contrast, population growth in the Town of Paradise would experience a decrease in growth. This distribution of growth is influenced by recent population displacement within the County resulting from the Camp Fire. Compared to the 2014-2040 growth forecast (BCAG 2014), all Cities and Towns are estimated to achieve less growth (both in total population in 2040 and percentage increase) in the 2018-2040 growth forecast.

The 2020 RTP/SCS includes over 100 net new transportation improvement projects, as compared to the 2016 RTP/SCS, which include transit service programs, improvements, and expanding service; increasing parking and park and ride capacities; implementing vanpool services; new or improvements to pedestrian and bicycle facilities; repair and/or replace roadways and bridges; guardrail replacement and other safety improvements; adding lanes to or widening existing roadways; constructing roundabouts; new bridges; and new traffic signals. No land use designations are proposed to be altered by the 2020 RTP/SCS, as the 2020 RTP/SCS considers projected future land use patterns and forecasted population and job growth to determine the transportation needs of the County. Transportation improvements associated with the 2020 RTP/SCS would not result in direct or indirect population growth beyond anticipated growth in the region, and projects under the proposed 2020 RTP/SCS are designed to fully support the transportation needs of the growing population, including the rebuilding of the Town of Paradise. Therefore, impacts would be less than significant and no mitigation is required.

Mitigation Measures

No mitigation is required.

Threshold: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?
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Impact PH-2 THE 2020 RTP/SCS WOULD NOT DISPLACE EXISTING HOUSING AND PEOPLE AS TRANSPORTATION PROJECTS ARE DEVELOPED. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Similar to the 2016 RTP/SCS, new transportation projects included in the 2020 RTP/SCS are not anticipated to cause the displacement of existing housing or people, as proposed transportation projects (as described in Section 2.4) that involve the construction of new facilities, such as the Paradise Transit Center and Gridley Park and Ride, or extension of existing roadways, such as the proposed Commerce Court connection, Mariposa Avenue connection, and Notre Dame Boulevard connection, would not require the demolition of existing residences or housing facilities. Although right-of-way easement acquisitions may be required (right-of-way acquisitions are described in more detail below). During construction of individual projects, residents may be temporarily affected (refer to Section 4.2, *Air Quality*; Section 4.6, *Greenhouse Gas Emissions/Climate Change*; Section 4.7, *Transportation/Circulation*, of this EIR), but would not be displaced.

Historically, vacancies within the existing housing stock absorb displacement of residents. In addition, existing laws and regulations would provide assistance in relocating households. As described in the *Regulatory Setting* above, the URA requires public agencies to provide relocation assistance when an action by the agency displaces residences. Thus, if any short-term displacement of housing were to occur, it would be mitigated through both existing regulation and normal market factors.

In the long-run, the 2020 RTP/SCS would support the anticipated increase in housing units by providing improved roadway capacities and roadway connections; and improved pedestrian, bicycle, and transit facilities. Between 2018 and 2040, the projected maximum increase in housing capacity in the County would be 21,121 units, or an increase of approximately 21 percent (BCAG 2019). The most dramatic increases would occur in the cities of Biggs and Gridley, with smaller increases occurring in the Town of Paradise, recovering from the Camp Fire, and unincorporated portions of Butte County (BCAG 2019). Because the 2020 RTP/SCS would not require the demolition of existing housing units, it would not displace substantial numbers of existing housing or people and would not necessitate the construction of replacement housing.

Some transportation network improvements, such as new road widening or extension projects, would require acquisition of right-of-way in areas with housing or businesses along transportation corridors and may displace residential or commercial units. Specific projects would be required to undergo separate environment review under CEQA. The corresponding project-specific environmental documentation would identify potentially significant impacts with regard to displacement of private property, if any, and provide the appropriate mitigation measures. Impacts from transportation improvements would consider relocation assistance in accordance with the URA. As a result, impacts related to housing and population displacement would be less than significant.

Mitigation Measures

No mitigation is required.

c. Specific 2020 RTP/SCS Projects That May Result in Impacts

As discussed above, the 2020 RTP/SCS would result in less than significant impacts related to displacement of housing or people. Although some transportation network improvements, such as road widening or extension projects, would require acquisition of right-of-way in areas with housing or businesses along transportation corridors, it cannot feasibly be determined whether such widening or right-of-way acquisition would displace housing units or residents without project-specific design details. However, as described above, impacts from transportation improvements would consider relocation assistance in accordance with the URA. Additionally, the 2020 RTP/SCS would support the anticipated increase in housing units by providing improved roadway capacities and roadway connections; and improved pedestrian, bicycle, and transit facilities. As a result, impacts related to housing and population displacement would be less than significant.

4.9 Transportation and Circulation

This section builds off the 2016 EIR and evaluates effects on transportation and circulation in the Butte County region that would result from implementation of the 2020 RTP/SCS.

4.9.1 Setting

a. Regional Road Network

Existing Road System

The Butte County regional road system is a network of highways and roads constrained by the region's geography. The circulation system in the flat valley of the southwestern portion of the county is affected most significantly by the Feather River. The river bisects the lower portion of the county running south. Travel in the foothills and mountains of the eastern part of the county is limited to east-west roadways that run through valleys and canyons.

Man-made barriers, like the railroad tracks running north-south parallel to the state highways, also constrain the circulation system. Together the river and railroad tracks facilitate north-south travel, although they also hinder east-west travel in the southern portion of the county.

Butte County has nearly 2,100 miles of public roadways under the jurisdiction of various government entities. These roadways carry an estimated 5.0 million vehicle miles of travel (VMT) daily (California Department of Transportation [Caltrans] 2019). Figure 4.9-1 presents the major roadways in the network.

Functional Classification and Design Standards of Roadways

Butte County's streets and highways can be described in terms of a hierarchy of roadways according to their functional classification. This hierarchy of streets and highways is only a general guide to the classification of roadways that make up the circulation system. Because streets often serve dual functions, they cannot be definitively classified. In addition, the width of a roadway does not always correspond directly to its function in the overall circulation system, although the wider roadways tend to have more regional function.

Two major classifications, urban and rural streets, are grouped according to the character of service they are expected to provide. It is necessary to differentiate between urban and rural areas since the services they provide can differ greatly.

Urban Roadway Classes

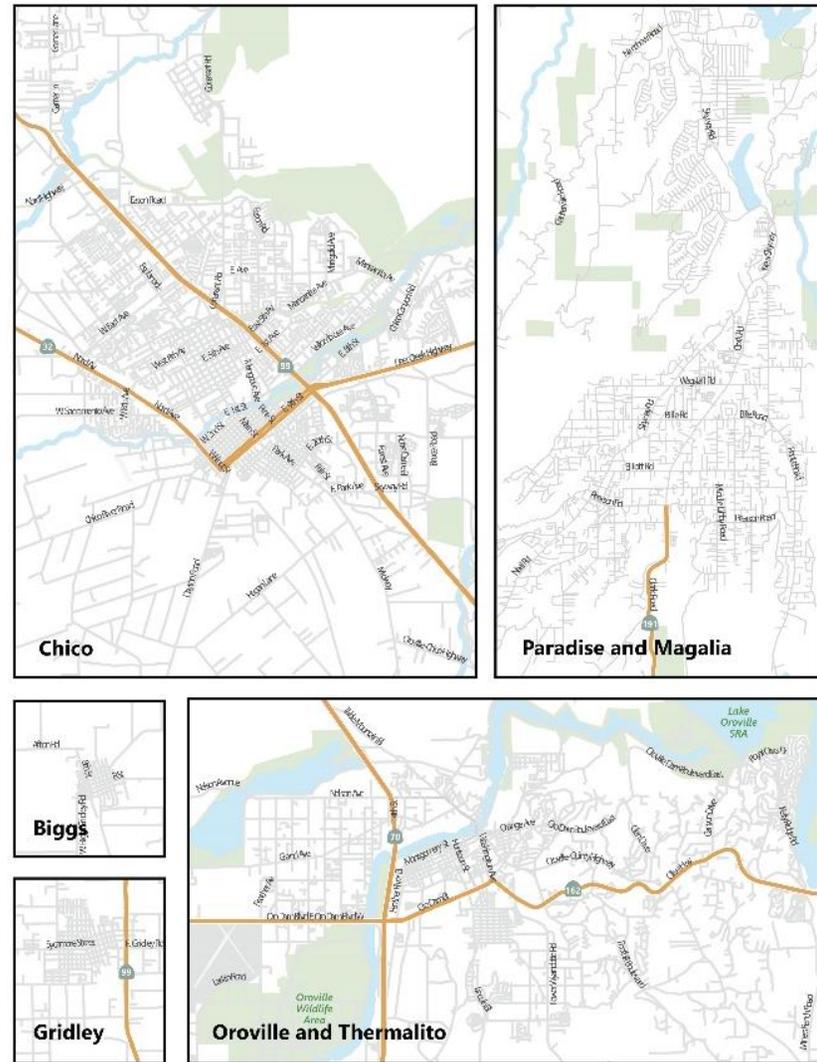
Urban Local Roadways

Urban local roadways are intended to serve adjacent properties only. They carry very little, if any, through traffic and generally have low volumes. They are normally discontinuous in alignment to discourage through traffic, although they are occasionally laid out in a grid system. Speed limits on local roads seldom exceed 25 miles per hour. An example of a local roadway in an urban environment is the cul-de-sac.

Figure 4.9-1 Major Roadway Networks in Butte County



Source: Fehr & Peers, 2020.



Urban Collector Roadways

Urban collector roadways are intended to collect traffic from local roadways and carry it to roads higher in the hierarchy of classification. Collector roads also serve adjacent properties. They generally carry light to moderate traffic volumes at speed limits typically in the range of 35 to 45 miles per hour.

Urban Arterial Roadways

Urban arterial roadways can be further divided into major and minor facilities. They are fed by local and collector roads and provide intra-city circulation and connection to regional roadways. Although their primary purpose is to move heavy volumes of traffic, arterial roadways often provide access to adjacent properties, especially in commercial areas. Speed limits on arterial roadways typically range from 45 to 55 miles per hour.

Rural Roadway Classes

Rural Local Roads

Rural local roads serve primarily to provide access to adjacent land and provide for travel over relatively short distances.

Rural Collector Roads

Rural collector roads serve travel that is primarily intra-county rather than of regional or statewide importance. Travel distances on these roads are usually shorter than on arterial roadways.

Rural Arterial Roadways

Rural arterial roadways provide for corridor movements having trip lengths and volumes that indicate substantial statewide or interstate travel. They generally link urban areas of over 50,000 population as well as many areas with 25,000 population or more. They are often regional highways or freeways as described below.

High-Volume Corridors

The following classifications of roadway serve both rural and urban areas by providing travel on important, high-volume corridors.

Regional Highways

Regional highways are used as primary connections between major traffic generators or as primary links in state and national highway networks. Such routes often have sections of many miles through rural environments without traffic control interruptions.

Six State Highways serve as regional highways in Butte County. These highways, which provide the primary access through the county, include State Routes (SR) 32, 70, 99, 149, 162, and 191.

Freeways and Expressways

Freeways and expressways are intended to serve both intra-regional and inter-regional travel. They provide no access to adjacent properties, but rather are fed traffic from collector and arterial

roadways by access ramps. Freeways provide connections to other regional highways and are capable of carrying heavy traffic volumes. Speed limits on freeways are usually the highest allowed by law.

Butte County has two segments of four-lane limited-access freeway or expressway. One segment is SR 70 between 0.4 mile south of SR 162 through Oroville to the junction of SR 149. The other segment is SR 99 starting at the SR 99/SR 149 intersection and continuing through Chico to one mile north of the Eaton Road interchange. These segments are part of the north-south travel corridor of SR 99 and part of SR 70. Because these state routes have only two segments of freeway, the Butte County region has one of only two standard metropolitan statistical areas (SMSAs) in the United States that is not served by an interstate freeway.

b. Transit Service

While the automobile is the primary mode of travel in Butte County, the 2020 RTP/SCS, the Butte County General Plan, and the general plans of the local jurisdictions support a balanced transportation system that facilitates all modes of travel.

Public transit service is provided by Butte Regional Transit (B-Line) along with other transit service providers such as Glenn Ride (service between Chico and Glenn County), various social service agencies, Greyhound Bus Lines, and other private transportation services.

Fixed-Route Public Transit

B-Line is a countywide public transit system that provides both intra-city and inter-city fixed-route and demand responsive service (Paratransit). Intra-city service is provided in Chico, Paradise, and Oroville. Inter-city service is provided on six routes between Chico and Oroville, Oroville and Gridley/Biggs, Paradise and Oroville, Gridley/Biggs and Chico, Paradise and Chico, and Magalia and Chico.

Local Chico Service

Eleven fixed routes provide intra-city service within Chico. Many of the routes are through-routed (interlined) with each other to improve connectivity and to reduce the number of vehicles that are needed to operate the system. The routes provide connections to all the major origins and destinations in Chico including California State University, Chico, junior high and high schools, downtown, shopping areas, hospitals, the library, and major high-density residential areas. Two routes (8 and 9) are specifically designated as student shuttle routes and connect the university and downtown with the major student-housing corridors. These routes do not operate when Chico State is on break. At this time (May 2020), most fall 2020 classes are scheduled to be offered virtually and the schedules for the student shuttles is uncertain.

General operating hours are 6:50 a.m. to about 9:00 p.m. Monday through Friday with some service as late as 10:00 p.m. Because of COVID-19 and Chico State in-person classes being suspended, student shuttle routes (8 and 9) have had reduced frequency service since April 2020. Saturday service runs between 8:15 a.m. and 7:00 p.m. No local service is provided on Sunday. Inter-city service to Paradise on two routes has been suspended since the Camp Fire. One inter-city route connects Chico to Oroville seven days a week. Inter-city service to Gridley is provided by a route that operates once per day during the work week. Most of the local routes in Chico have timed connections with inter-city routes at the Chico Transit Center.

Local Oroville Service

Oroville is served by five fixed routes that operate Monday through Friday, 6:00 a.m. to 7:30 p.m. Local service is not provided on weekends or major holidays. The routes connect the County Administrative Complex, the downtown transit center, residential areas within the City of Oroville, and portions of Thermalito and South Oroville. Inter-city service to Chico operates seven days a week. Inter-city service to Gridley/Biggs is provided by one route that operates Monday through Saturday, three times per day in each direction. Inter-city service to Paradise has been suspended since the Camp Fire. Most of the local routes in Oroville have connections with inter-city routes at the Oroville Transit Center.

Local Paradise Service

Route 31 between Paradise and Oroville has been suspended since the Camp Fire. Route 40 from Chico or Paradise and Route 41 from Chico to Magnolia have been reduced in frequency since the Camp Fire, but continue to run throughout the day.

Paratransit Service

B-Line provides paratransit service, in accordance with the Americans with Disabilities Act (ADA), to all destinations within $\frac{3}{4}$ of a mile of any Butte Regional Transit fixed route, within Chico, Oroville, or Paradise. Non-ADA trips are provided along direct, easily accessible routes to destinations within three miles of the ADA core boundary at an additional cost for each subsequent mile. Operating hours are 5:50 a.m. to 10:00 p.m. Monday through Friday, 7:00 a.m. to 10:00 p.m. on Saturday, and 7:50 AM to 6 PM on Sunday. Within Gridley, Paratransit service is provided by the Gridley Golder Feather Flyer, a Dial-A-Ride service that operates Monday through Friday, 8 a.m. to 4:00 p.m.

Dial-A-Ride Service

B-Line provides Dial-A-Ride service to seniors aged 70 years and older at a cost of \$3.50 for each one-way ride.

c. Aviation

Air transportation in Butte County is served by a number of private and public airfields and heliports serving general aviation and agricultural users. Most of these are small fields for private use. Commercial flights to distant or out-of-state destinations are available at the Sacramento International Airport, about 60 miles south of Oroville.

Chico Municipal Airport

The Chico Municipal Airport (CMA) is owned and operated by the City of Chico. The airport is located to the north of the city, west of Cohasset Road. This facility is the largest airport in Butte County. CMA commercial service ended in December 2014 but received a \$500,000 federal grant to help recover commercial air service in 2020 with the Federal Aviation Administration (FAA) committing \$12 million to reconstruct one of the CMA's runways (Urseny 2020). CMA is currently used exclusively for business and general aviation serving the Chico and Central Sacramento Valley area.

The 1,475-acre airport facility has two paved runways; the main runway is 6,724 feet long and 150 feet wide and the secondary runway is 3,005 feet long and 60 feet wide. The control tower is open

from 7:00 a.m. to 7:00 p.m. seven days a week. The tower and all other navigational aids are maintained and operated by the Federal Aviation Administration (FAA).

Chico Municipal Airport is the primary airport for air cargo service in Butte County. It also provides air cargo service to Glenn, Tehama, and Plumas counties. As of 2019, the airport recorded 21 scheduled commercial services, 6,719 air taxi flights, 6,170 local general aviation flights, and 19,546 other general aviation flights. There were 90 aircraft based at the airport including 75 single-engine, 10 multi-engine, two jet engine aircraft, and three helicopters (FAA 2020).

Oroville Municipal Airport

The Oroville Municipal Airport is owned by the City of Oroville. This 877-acre facility is located 2.5 miles west of the city along SR 162. Although the city's sphere of influence extends a mile west of the airport, only the airport property and some private land to the north and west are within the city boundary. The airport has two paved runways; the main runway is 6,020 feet long and 100 feet wide and the secondary runway is 3,540 feet long and 100 feet wide.

In 2018, this airport served 36,000 annual operations. There were 45 aircraft based at the airport, including 41 single-engine general aviation aircraft, one helicopter, one glider, and two ultralight aircraft (FAA 2020).

Paradise Skypark Airport

The Paradise Skypark Airport is located three miles south of the Paradise town center. It is privately owned and operated and has one runway of 3,017 feet. In 2005 – the most recent year for which data is available from the Federal Aviation Administration – aircraft based at Paradise Skypark totaled 45, including 36 single engine, two multi-engine planes, one helicopter, and two ultralight planes (FAA 2020).

Ranchaero Airport

The Ranchaero Airport is a 23-acre facility located on the west side of Chico. Privately owned and operated, it has one runway of 2,156 feet. In 2004 – the most recent year for which data is available from the Federal Aviation Administration - 34 aircraft were based there, including 30 single engine and four helicopters (FAA 2020).

Other aviation facilities include three special use airports: Jones Airport, Williams Airport, Johnsen Airport, and Richvale Airport; a seaplane-landing area in the center of Lake Oroville; and heliports at Enloe Hospital and Oroville Hospital.

d. Rail Transportation

Butte County is served by Union Pacific Railroad. The Union Pacific maintains 100.4 miles of mainline track in Butte County; one line, in the western portion of the county (formerly the Southern Pacific mainline) that passes through Gridley, Biggs, and Chico and two in the eastern portion that pass through Oroville. Goods shipped by the railroad include bulk items such as grains, rice, vehicles, lumber, and fuel.

e. Truck Transport

Truck transport is the primary method of moving goods into and through Butte County. The designated truck route through Butte County encompasses a combination of SR 32, 70, 99, 149, 162,

and 191. This route was designated because there is no continuous four-lane freeway/expressway on which to safely accommodate the movement of goods by truck. SR 32, 70, 99 and Skyway are commonly used to transport freight to and from the urban centers in Butte County. The incorporated cities in Butte County have designated truck routes.

f. Bicycle/Pedestrian Facilities

Many communities in Butte County support bicycling for both transportation and recreation. All of the incorporated cities and the County have Bicycle Master Plans to aid in the planning and development of a comprehensive bicycle network throughout the county. These plans were adopted between 2010 and 2019. In 2015, BCAG completed the Butte County Transit and Non-Motorized Plan, which focused on short-term and long-term improvements to the pedestrian, bike, and transit networks. Given the energy savings, VMT reductions, health advantages, and environmental benefits of active modes of travel, bicycle facilities will continue to play an important role in transportation planning.

Bike facilities are categorized into four different classifications:

- Class I Shared-Use Paths are bikeway facilities designated for exclusive use by bicycles and pedestrians. They are separated from roadways, usually designed for two-way travel, and are designed to minimize cross-flow by motor vehicles. Whenever practical, these paths should be at least 8 feet wide, paved with asphalt concrete, and have two-foot wide, graded shoulders made of aggregate base.
- Class II Bike Lanes are areas within paved streets. They usually consist of adjacent one-way lanes on either side of the roadway for exclusive and semi-exclusive use by bicycles. At minimum, Class II bike lane facilities require four-foot wide lanes on both sides of the roadway where shoulders are present and five-foot wide lanes where curb and gutters are present. These facilities are for the exclusive use of bicycles where they are separated from the motor vehicle lane by a six-inch painted white stripe and designated with signs and permanent pavement markings. Shared use by motor vehicles within these facilities is only permissible where indicated by broken or dashed striping.
- Class III Bike Routes are located in shared-use travel lanes with sufficient width for both motor vehicle and bicycle usage. Class III bike routes are usually only designated by signs or permanent pavement markings indicating the route.
- Class IV Separated Bikeways are on-street facilities reserved for use by bicyclists, with physical separation between the bikeway and travel lanes. Separated bikeways – also known as cycle tracks – can be one-way facilities on both sides of the street or two-way facilities on one side of the street. Physical separation can include concrete curbs, landscaping, parking lanes, bollards, or other vertical elements. They differ from Class I shared-use paths and Class II bike lanes, as they are on-street but physically separated from vehicle traffic.

The Butte County Transit and Non-Motorized Plan identifies a number of planned facility improvements, including bike lanes on Chico River Road, 5th Street, and Holly Avenue in Chico. In Oroville, a bike path is proposed along the Feather River and bike lanes on Oroville Dam Boulevard, Montgomery Street, Mitchell Avenue, and Feather River Boulevard. Finally, a number of additional bike facilities are planned for Biggs, Gridley, and the unincorporated county.

Most of the pedestrian facilities located within the urban areas of Butte County are sidewalks built in conjunction with site improvements for residential and commercial development. Newer sidewalk facilities include access ramps that meet both County and ADA standards. Older facilities are being gradually upgraded to include access ramps as part of the County's Capital Improvement Program. To create uniform pedestrian corridors, sidewalk improvements will also have to be added to complete existing facilities that presently terminate without accessible ramps or connections to adjacent facilities.

Development standards for jurisdictions within Butte County typically require proposed residential and commercial developments in urban areas to construct curb, gutter, and sidewalk improvements along a development's frontage on a public street. In the Chico urban area, residential developments with lot sizes greater than one acre are not presently required to construct curb, gutter, and sidewalk improvements along public street frontage.

g. Regulatory Setting

Federal

The primary federal requirements applicable to transportation components of the RTP relate to transportation planning and funding and conformity with federal air quality requirements. Requirements for RTPs are addressed in the metropolitan transportation planning rules in 23 Code of Federal Regulations (CFR) 450. These federal regulations incorporate the most recent transportation statute affecting federal funding for transportation projects (i.e., *Fixing America's Surface Transportation (FAST) Act*, enacted in December 2015).

Overall, the FAST Act largely maintains current program structures and funding shares between highways and transit enacted in the Moving Ahead for Progress in the 21st Century Act (MAP-21). The law also makes changes and reforms to many federal transportation programs, including streamlining the approval processes for new transportation projects, providing new safety tools, and establishing new programs to advance freight projects.

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

- RTPs must be developed through an open and inclusive process that ensures public input and seeks out and considers the needs of those traditionally under served by existing transportation systems
- RTPs must be developed through a performance-driven, outcome-based approach that includes state and public transportation operators
- RTPs must be developed at least every four years for non-attainment regions
- RTPs must have a planning period of at least 20 years into the future
- RTPs must reflect the most recent assumptions for population, travel, land use, congestion, employment, and economic activity
- RTPs must have a financially constrained element, and transportation revenue assumptions must be reasonable
- RTPs must conform to the applicable federal air quality plan, called the State Implementation Plan (SIP), for ozone and other pollutants for which an area is not in attainment
- RTPs must consider eight planning factors and strategies, in the local context

- RTPs must provide for the development of accessible pedestrian walkways and bicycle transportation facilities
- RTPs shall address resiliency and reliability of the transportation system
- RTPs shall include strategies to reduce vulnerabilities due to natural disasters
- RTPs shall identify public transportation facilities and intercity bus facilities
- RTPs must consider public ports and freight shippers

The 2020 RTP discusses in detail how these requirements are met.

National Environmental Policy Act

The National Environment Policy Act (NEPA) of 1969 (42 U.S.C. Section 4321 et seq.) requires federal agencies to assess the possible environmental consequences of projects that they propose to undertake, fund, or approve. While the 2020 RTP/SCS is not subject to NEPA, individual federally funded programs or projects requiring federal approval will be subject to a NEPA evaluation at the time of project implementation.

State

State requirements for long-range transportation plans are similar to the federal regulations. However, key additional requirements described in Government Code Section 65080 include:

- compliance with CEQA
- consistency with State Transportation Improvement Program
- use of program level performance measures that include goals and objectives
- RTPs must include a policy element, an action element, and a financial element

Plans must also include a Sustainable Communities Strategy (see Senate Bill [SB] 375 discussion below).

California Transportation Commission Regional Transportation Plan Guidelines

The California Transportation Commission (CTC) publishes and periodically updates guidelines for the development of long-range transportation plans. Pursuant to Government Code Section 65080(d), each regional transportation planning agency (RTPA) is required to adopt and submit an updated RTP to the CTC and the Department of Transportation (Caltrans) every four years. BCAG is the designated RTPA for Butte County.

Under Government Code Section 14522, the CTC is authorized to prepare guidelines to assist with the preparation of RTPs. The CTC's RTP guidelines suggest that projections used in the development of an RTP should be based upon available data (such as from the U.S. Census Bureau), use acceptable forecasting methodologies, and be consistent with the California Department of Finance baseline projections for the region. The guidelines further state that the RTP should identify and discuss any differences between the agency projections and those of the Department of Finance. The most recent update to the RTP guidelines was published in 2010 and includes new provisions for complying with SB 375 (see below), as well as new guidelines for regional travel demand modeling. The regional travel demand model guidelines are "scaled" to different sizes of Metropolitan Planning Organizations (MPOs).

SB 375

The Sustainable Communities Strategy and Climate Protection Act of 2008, SB 375 (codified at CAL.GOV'T CODE §§ 14522.1, 14522.2, 65080.01, 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588; CAL. PUB. RES. CODE §§2161.3, 21155, 21159.28), is a law passed in 2008 by the California legislature that requires each MPO to demonstrate, through the development of a SCS, how its region will integrate transportation, housing, and land use planning to meet the GHG reduction targets set by the state. In addition to creating requirements for MPOs, it also creates requirements for the California Transportation Commission and California Air Resources Board (CARB).

SB 743

SB 743 resulted in several statewide CEQA changes. It required the Governor's Office of Planning and Research (OPR) to establish new metrics for determining the significance of transportation impacts of projects within transit priority areas (TPAs) and allows OPR to extend use of the metrics beyond TPAs. OPR selected VMT as the preferred transportation impact metric and applied their discretion to require its use statewide. This legislation also established that aesthetic and parking effects of residential, mixed-use residential, or employment center projects on an infill site within a TPA are not significant impacts on the environment. The revised CEQA Guidelines that implement this legislation became effective on December 28, 2018, and state that vehicle level of service (LOS) and similar measures related to delay shall not be used as the sole basis for determining the significance of transportation impacts. Finally, the legislation establishes a new CEQA exemption for a residential, mixed-use, and employment center project a) within a TPA, b) consistent with a specific plan for which an EIR has been certified, and c) consistent with an SCS. This exemption requires further review if the project or circumstances change significantly.

To aid in SB 743 implementation, the following state guidance has been produced:

- Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018)
- The 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals
- Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance (July 2020)

Of these documents, the CARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals is most relevant for transportation impact analysis of the 2020 RTP/SCS. It provides recommendations for VMT reduction thresholds that would be necessary to achieve the state's GHG reduction goals and acknowledges that the SCS targets alone are not sufficient to meet climate goals.

Local

Airport Land Use Commission

On November 15, 2017, Butte County's Airport Land Use Commission (ALUC) adopted the Butte County Airport Land Use Compatibility Plan (ALUCP). It establishes procedures and criteria for the ALUC to review proposed land use development and affected cities within the county for compatibility with airport activity. State law requires public access airports to develop Comprehensive Land Use Plans, (CLUPs) designating airport vicinity land use and clear zones. Such plans are to be adopted by the County's ALUC, which consists of representatives as follows: two city

representatives, two airport managers, two county supervisors, and one member from the public at large.

The Butte County ALUCP is distinct from airport master plans, which address planning issues on airport property. The purpose of a compatibility plan is to ensure that development on lands surrounding the airport is compatible with airport uses. The 2017 ALUCP encompasses the Chico Municipal Airport, the Oroville Municipal Airport, the Paradise Skypark Airport, and the Ranchoero Airport. These four airports are the principal facilities in Butte County and are described earlier in this chapter.

Local Jurisdictions

Local jurisdictions within Butte County have established standards for the performance of roadways and intersections within their boundaries. The most common standards apply to peak hour operations at surface street intersections or roadways, which are defined as a minimum LOS.

LOS is typically defined on an A through F scale; with LOS A corresponding to little or no congestion or delay, and LOS F to the most congested condition or a high level of delay. The specific standard applied, calculation methodology, and exceptions for unique conditions vary widely among jurisdictions. The standards are applied on a location-by-location basis and do not account for overall system performance either within the jurisdiction, or in areas outside the jurisdiction. The performance measures used for evaluation of the 2020 RTP/SCS are intended to supplement these local standards by focusing on overall system performance.

4.9.2 Impact Analysis

Since adoption of SB 743 and revisions to the *CEQA Guidelines* in December 2018, VMT is the metric for determining the significance of transportation impacts. Therefore, similar to the approach of the 2016 RTP/SCS EIR the analysis below describes operational VMT changes relative to both a 2018 baseline and a year 2040 baseline scenario without implementation of the 2020 RTP/SCS (i.e., No Project or continuation of the 2016 RTP/SCS). The 2040 baseline scenario effectively demonstrates the impacts that would occur as a result of continued implementation of the 2016 RTP/SCS without the additional impacts resulting from implementation of the 2020 RTP/SCS. Comparison of the 2040 VMT with the 2020 RTP/SCS and the 2040 No Project VMT allows for the additional VMT attributed to 2020 RTP/SCS to be identified and evaluated. The 2020 RTP/SCS uses 2018 as the baseline year because it is the most recent year for which comprehensive land use, demographic, traffic count, and VMT data are available for Butte County.

a. Methodology

Travel Demand Forecasting Model

BCAG maintains a countywide travel demand forecasting (TDF) model and conducted a focused update of the regional model for use in developing and evaluating the transportation impacts of the RTP/SCS. The BCAG TDF Model encompasses Butte County, which includes the cities of Biggs, Chico, Gridley, Oroville, and Paradise. For this SEIR, the model base year was updated from 2014 (used in the 2016 RPT/SCS EIR) to 2018 and the modeling platform was changed from TransCAD to Cube. Other updates and changes to the model include:

- Trip Generation: Replaced total vehicle trips generated with person trips and commercial truck trips

- Trip Distribution: Implemented employee salary and household income relationship for home-work trips
- Interregional Travel: Improved control over scenario evaluation of interregional inputs
- Multimodal Network: Enhanced network to include modes allowed to use the facility, distinguishing between drive-alone, shared ride, bike/pedestrian, transit, and commercial trucks
- Travel Cost: Added auto operating cost based on all fuel types, travel cost per mile, and parking cost to Trip Distribution and Mode Choice
- Mode Choice: Implemented mode choice utility equation based on demographics, distance, cost, and built environment

To evaluate the suitability of the updated model for developing and evaluating the 2020 RTP/SCS, and to provide both BCAG and CARB information for determining the capabilities and sensitivity to the new features of the model, a series of static and dynamic validation tests were conducted, consistent with recommendations in the 2017 *California Regional Transportation Plan Guidelines*¹.

The BCAG Model Development Report, which includes a detailed summary of the model development structure, model calibration, and validation, is available as Appendix 6-6b to the 2020 RTP/SCS. The analysis period used is a typical weekday, representative of non-summer/non-holiday conditions with school in session.

Potential Limitations of the Travel Demand Forecasting Model

The BCAG TDF Model has been developed for regional planning purposes within a trip-based model framework. The model conforms to the recommendations outlined in the 2017 California Regional Transportation Guidelines for a Type B MPO but does have limitations:

- The current structure has limited sensitivity to factors that may affect trip generation rates such as significant declines in economic activity (e.g., COVID-19 effects). However, since the model has a land use occupancy component, economic cycles can be reflected in the assumed intensity of land uses within the model.
- Although the model network includes all local roadways, not all local roadways are assigned vehicle trips. Use of the model for local applications will require sub-area refinements and validation to ensure the model is appropriately sensitive to changes at this scale.
- Model parameters relying on household travel survey data are based on a small sample size. Future model updates would benefit from a larger sample of households in Butte County.
- The trip-based model structure does not allow for complete estimates of forecasts of vehicle trips (VT) or VMT generated by residential households or individual persons. Vehicle trips are assigned at the Traffic Analysis Zone (TAZ) level and any connection to individual land uses that originally generated the trips are lost. VT and VMT can be expressed as ratios such as VMT per capita or VMT per household. But these ratios are based only on dividing total VMT by the number of people or households in the model area. It does not indicate the level of VT or VMT being generated.

¹ *California Regional Transportation Plan Guidelines*. (2017). Sacramento, CA: California Transportation Commission.

Performance Measures for Assessing the Transportation Impacts of the 2020 RTP/SCS

The impact analysis considers the roadway, transit, bicycle, pedestrian, aviation, agricultural, and goods movement components of the regional transportation system. Quantitative analysis focuses on total VMT and VMT per capita as a performance measure derived from the forecasting results of the BCAG TDF model. This approach is similar to what was conducted for the 2016 RTP/SCS EIR.

In addition to these quantitative measures, qualitative analysis is included to address the overall connectivity of the pedestrian and bicycle system and safety. Each of the quantitative and qualitative measures are described in more detail below.

Total Vehicle Miles Traveled

The basic measure of the amount of vehicle travel generated by the project is VMT, or vehicle miles traveled. Total VMT includes household generated VMT plus VMT from all other sources. Total VMT per capita is total VMT generated divided by the population of the zones in the study area (i.e., Butte County). Total VMT per capita is the measure used in the analysis of impacts for the 2020 RTP/SCS. Although the absolute amount total VMT is reported, impact analysis is based on VMT normalized to population rates. This metric provides a measure of travel efficiency and helps depict whether people are traveling more, or less, by vehicle over time. VMT per capita may decrease, even though the absolute amount of VMT may increase. A per capita decline in VMT indicates that the transportation network is operating more efficiently.

Congested Vehicle Miles of Travel

Congested Vehicle Miles of Travel (CVMT) is the portion of VMT traveling on freeways operating at or below 35 miles per hour (mph) during the AM or PM peak periods, as described in the revised State Transportation Improvement Program (STIP) guidelines for evaluating congestion. In the BCAG TDF model scenarios analyzed, no freeways operate at or below 35 mph during the AM or PM peak periods.

Connectivity of the Region's Pedestrian and Bicycle System

The 2020 RTP/SCS contains a number of new and modified bicycle and pedestrian projects. These projects are generally designed to expand and complement the existing bicycle and pedestrian network. An objective of the 2020 RTP/SCS is to plan and develop a continuous and easily accessible pedestrian and bikeway network throughout the region.

Safety

Transportation safety is assessed based on how the 2020 RTP/SCS projects will comply with applicable design standards of the implementing agencies. As part of planning, design, and engineering for projects that result from the 2020 RTP/SCS, the implementing agency shall ensure that transportation systems and related issues are treated in accordance with applicable federal, state, and local laws and regulations.

b. Significance Thresholds

Pursuant to the *CEQA Guidelines*, potentially significant impacts to transportation would result if the project would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)²
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access

Impacts associated with the 2020 RTP/SCS have been analyzed based on full implementation of the plan at a program level and are based on the multimodal project collectively, rather than impacts associated with each mode of travel individually.

Threshold: Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
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Impact T-1 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS UNDER THE 2020 RTP/SCS WOULD NOT RESULT IN ADDITIONAL CONFLICTS WITH PROGRAMS AND PLANS RELATED TO THE CIRCULATION SYSTEM, RELATIVE TO THE 2016 RTP/SCS. IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.

Transit

The 2020 RTP/SCS reflects the Transit and Non-Motorized Transportation Plan, including short- and long-range transit goals, policies, actions, and projects to support population growth in Butte County. These actions include a focus on maximizing service efficiency, reliability, and effectiveness in ridership markets as well as expanding B-Line services into new areas and commuter rail between Oroville and Sacramento. Similar to the 2016 RTP/SCS the 2020 RTP/SCS is supportive of public transit and would not disrupt or interfere with existing or planned public transit facilities. Therefore, the 2020 RTP/SCS would not introduce a new impact relative to the 2016 RTP/SCS and impacts would remain less than significant.

Bicycle and Pedestrian Facilities

The 2020 RTP/SCS includes goals, policies, actions, and projects to support non-motorized transportation for the region, including bicycle and pedestrian projects that would implement projects included in bicycle and non-motorized transportation plans in the county and incorporated cities. Since the 2020 RTP/SCS is designed to be consistent with adopted regional plans, including the Transit and Non-Motorized Transportation Plan, implementation of the plan would not disrupt or interfere with existing or planned bicycle and pedestrian facilities and would result in a less than significant impact.

Rail Transportation

The 2020 RTP/SCS encourages the use of alternative modes of transportation, including the use of rail, and includes a planned inter-city commuter rail service between Oroville, Marysville, and

² Section 15064.3 describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purpose of this section, "vehicle miles traveled" refers to the amount of distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) regarding lead agency discretion in determining the appropriate measure of transportation impacts for transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. For the purposes of the EIR, consistency with CEQA Section 15064.3, implementation of the RTP-SCS would result in a significant impact under CEQA if it would substantially interfere with achievement of the VMT reductions set forth in CARB's 2017 Scoping Plan.

Sacramento. However, no specific funded rail improvement projects are included in the 2020 RTP/SCS. Future train trips within the region are expected to minimally increase by 2040. The degree of potential traffic impacts resulting from the expansion of rail service would depend on current traffic conditions when additional service begins, the circulation pattern around the station, and any roadway improvements in the station area, which at this point is not known. It is not anticipated that vehicle trips generated by additional train trips would be significant. Impacts would be less than significant.

Aviation

The 2020 RTP/SCS encourages the use of alternative modes of transportation and supports aviation services in Butte County. However, no specific funded aviation improvement projects are included in the 2020 RTP/SCS. If air service were to increase at any of the airports in Butte County because of higher demand, it is not anticipated that vehicle trips generated by additional aircraft service would be significant. Therefore, the 2020 RTP/SCS would not introduce a new impact relative to the 2016 RTP/SCS.

Mitigation Measures

None required.

Threshold: Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Impact T-2 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS UNDER THE 2020 RTP/SCS HAVE THE POTENTIAL TO INTERFERE WITH ACHIEVEMENT OF THE VMT REDUCTIONS SET FORTH IN CARB'S 2017 SCOPING PLAN. IMPACTS WOULD BE GREATER THAN THE 2016 RTP/SCS AND SIGNIFICANT AND UNAVOIDABLE.

The 2020 RTP/SCS is based on planned population and employment growth in Butte County, consistent with the General Plans of Butte County and the Cities of Biggs, Chico, Gridley, Oroville, and Paradise. In addition, since the BCAG travel demand forecasting model is used for the analysis of the 2020 RTP/SCS, regional employment and population forecasts and the corresponding transportation system of the 2020 RTP/SCS are also incorporated.

Table 4.9-1 provides estimates of total VMT generated for Butte County for each analyzed scenario. The No Project scenario is based on continuation of the adopted 2016 RTP/SCS. As shown in Table 4.9-1 compared to 2018 baseline conditions, the total VMT in Butte County would increase in 2040 regardless of the potential implementation of the 2020 RTP/SCS. This increase is due to regional population growth that would occur in the County independent of policy and land use decisions by BCAG. As compared to the 2040 No Project scenario, the 2020 RTP/SCS would decrease the total VMT in the region by approximately 14 percent.

Table 4.9-1 Total Vehicle Miles Traveled – Butte County

Variable	Baseline (2018)	2040 No Project	2040 Plus Project
Total VMT ¹	4,705,417	6,216,655	5,332,327
% Change from Baseline	N/A	32.1%	13.3%
% Change from No Project	N/A	N/A	-14.2%
Population	227,621	319,342	265,964
Total VMT per Capita	20.7	19.5	20.0
% Change from Baseline		-5.8%	-3.4%
% Change from No Project			2.5%

¹ Includes total VMT for Butte County, excluding external-to-external trips. Estimates and forecasts from 2020 MTP/SCS BCAG travel demand forecasting model.

Source: Appendix D

VMT per capita is a proxy for the SB 375 metric of GHG based on VMT within Butte County. While total VMT is lower with implementation of the 2020 RTP/SCS when compared to the No Project scenario, VMT per capita is higher in the 2020 RTP/SCS scenario as compared to the No Project scenario. Total VMT is higher, while VMT per capita is lower because the No Project scenario estimate is based on the adopted 2016 RTP/SCS and includes a much higher population as result of decreased growth projected by the California Department of Finance and losses associated with the Camp Fire for the 2020 RTP/SCS. As a result, the forecast assumed more development and more dense development in regionally and in the Paradise area than is analyzed in the 2020 RTP/SCS. The 2020 RTP/SCS assumes both lower population and lower population density with rebuilding in Paradise, which results in higher VMT per capita even with lower total VMT. Compared to baseline 2018 conditions, VMT per capita is around three percent lower with implementation of the 2020 RTP/SCS.

The VMT per capita decline indicates that the projected land use and planned transportation improvements assumed in the 2020 RTP/SCS would effectively work together to improve system efficiency, as compared to 2018 baseline conditions.

Notwithstanding past and projected progress on VMT reductions in the BCAG region, recent progress reports on the state’s climate goals suggest that additional VMT reductions are required. Both in its target resetting process and in its 2018 progress report pursuant to SB 150, CARB noted:

- The regional 2035 GHG emissions reduction targets under SB 375 are not adequate to fully meet the goals of the state’s 2017 Climate Change Scoping Plan: The Strategy for Achieving California’s 2030 Greenhouse Gas Target. As CARB noted, “An RTP/SCS that meets the applicable SB 375 targets alone will not produce the GHG emissions reductions necessary to meet state climate goals in 2030 nor in 2050.” CARB identified a 6 percent gap between the 19 percent emissions reductions targets set for the regions (over a base year of 2005) and the 25 percent reductions required to meet the Scoping Plan goal.
- Much greater reductions in VMT will be required to meet the state climate goals for 2030 and 2050. CARB concluded that a 14.3 percent reduction in daily VMT per capita and a 16.8 percent reduction in light-duty VMT per capita (over current conditions; 2015-2018) was needed to meet these goals.
- California – at the state, regional, and local levels – has not yet gone far enough in making the systemic and structural changes to how we build and invest in communities that are needed to meet state climate goals. It will take collaboration among all these levels of

government to achieve the state's climate goals because the MPOs do not have the land use authority or resources to meet this challenge alone.

The 2020 RTP/SCS's proposed three percent reduction in total VMT per capita by 2040 would not support achievement of the 14.3 percent identified by CARB statewide. As a result, the potential of the 2020 RTP/SCS land use pattern and transportation improvements to substantially interfere with achievement of the VMT reductions set forth in CARB's 2017 Scoping Plan (as part of the regional strategy) is considered potentially significant.

Mitigation Measures

The following mitigation measure is a new measure added since adoption of the 2016 RTP/SCS EIR to address impacts from VMT.

Mitigation Measure T-1

The state recognized that additional state policy actions and funding would be required to close the VMT gap between what the MPOs could achieve through implementation of their SCSs, and reductions needed to meet state goals. Though the state must initiate these additional actions and funding programs, the exact form of the policies and funding programs must be collaboratively developed with input from MPOs, local agencies, and other organizations to ensure they provide the tools and incentives necessary to go beyond the SCSs in reducing VMT.

Consequently, BCAG shall work collaboratively with Butte County and the cities of Chico, Gridley, Oroville, Biggs, and Town of Paradise to support implementation of regional and local-level strategies and measures to achieve further VMT reductions. Implementing agencies (i.e., Butte County and the cities of Biggs, Chico, Gridley, Oroville, and Paradise) shall implement the following strategies to reduce VMT.

LOCAL-LEVEL

- Implementing agencies shall require implementation of VMT reduction strategies through transportation demand management (TDM) programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT. Programs should be designed to reduce VMT from existing land uses, where feasible, and from new discretionary residential or employment land use projects. The following strategies from Quantifying Greenhouse Gas Mitigation Measure, CAPCOA, August 2010 were identified as strategies most suited to Butte County and the cities of Biggs, Chico, Gridley, Oroville, and Town of Paradise, given the rural and suburban land use context:
 1. **Increase diversity of land uses** – This strategy focuses on the inclusion of mixed uses within projects or in consideration of the surrounding area to minimize vehicle travel in terms of both the number of trips and the length of those trips.
 2. **Provide pedestrian network improvements** – This strategy focuses on creating a pedestrian network within the project and connecting to nearby destinations. Projects in Butte County tend to be small, so the emphasis of this strategy would likely be the construction of network improvements that connect the project site directly to nearby destinations. Alternatively, implementation could occur through an impact fee program or benefit/assessment district targeted to various areas in the county designated for improvements through local or regional plans. Implementation of this strategy may require

regional or local agency coordination and may not be applicable for all individual land use development projects.

3. **Provide traffic calming measures and low-stress bicycle network improvements** – This strategy combines the CAPCOA research focused on traffic calming with new research on providing a low-stress bicycle network. Traffic calming creates networks with low vehicle speeds and volumes that are more conducive to walking and bicycling. Building a low-stress bicycle network produces a similar outcome. Implementation options are similar to strategy 2 above. One potential change in this strategy over time is that e-bikes (and e-scooters) could extend the effective range of travel on the bicycle network, which could enhance the effectiveness of this strategy.
4. **Implement car-sharing program** – This strategy reduces the need to own a vehicle or reduces the number of vehicles owned by a household by making it convenient to access a shared vehicle for those trips where vehicle use is essential. Note that implementation of this strategy would require regional or local agency implementation and coordination and would not likely be applicable for individual development projects.
5. **Increase transit service frequency and speed** – This strategy focuses on improving transit service convenience and travel time competitiveness with driving. Given land use density in Butte County, this strategy may be limited to traditional commuter transit where trips can be pooled at the start and end locations or require new forms of demand-responsive transit service. The demand-responsive service could be provided as subsidized trips by contracting to private Transportation Network Companies (TNCs, such as Uber, Lyft, and Via) or taxi companies. Alternatively, a public transit operator could provide the subsidized service but would need to improve on traditional cost effectiveness by relying on TNC ride-hailing technology, using smaller vehicles sized to demand, and flexible driver employment terms where drivers are paid by trip versus by hour. Note that implementation of this strategy would require regional or local agency implementation, substantial changes to current transit practices, and would not likely be applicable for individual development projects.
6. **Implement subsidized or discounted transit program** – This strategy reduces the need to own a vehicle or reduces the number of vehicles owned by a household by incentivizing individuals to use transit for their daily commute. This strategy depends on the ultimate building tenants – whether residential landlords or businesses – and may require monitoring. This strategy also relies on B-Line continuing to provide similar or better service throughout the county, in terms of frequency and speed.
7. **Encourage telecommuting and alternative work schedules** – This strategy relies on effective internet access and speeds to individual project sites/buildings to provide the opportunity for telecommuting. The effectiveness of the strategy depends on the ultimate building tenants and the nature of work done by tenants' employees (can the work be done remotely in the first place?); two factors that should be considered for potential VMT reduction. Effectiveness may also be limited in more rural areas of the county with limited broadband internet access.
8. **Provide ride-sharing programs** – This strategy focuses on encouraging carpooling and vanpooling by project site/building tenants, which depends on the ultimate building tenants; this should be a factor in considering the potential VMT reduction.

REGIONAL

- Implementing agencies shall require project modifications during the project design and environmental review stage of project development that would reduce VMT effects. For roadway capacity expansion projects, this would include but is not limited to demand management through transportation systems management and operations (TSMO) including the use of pricing.

Significance After Mitigation

With implementation of Mitigation Measure T-1, this impact would be reduced to less than significant for some projects, although additional state policy actions and funding would be required to close the gap at the state level. For projects proposing to streamline environmental review, lead agencies must conduct project-level analysis for each project to analyze whether, based on substantial evidence in the record, the proposed mitigation would reduce the impact to less than significant. However, BCAG cannot require Butte County and the cities of Biggs, Chico, Gridley, Oroville, and Paradise to adopt these mitigation measures, and it is ultimately the responsibility of these agencies to determine and adopt project-specific mitigation. Therefore, Impact 4.9-2 remains significant and unavoidable.

Threshold: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Impact T-3 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS UNDER THE 2020 RTP/SCS WOULD NOT SUBSTANTIALLY INCREASE HAZARDS DUE TO GEOMETRIC DESIGN FEATURES (E.G., SHARP CURVES OR DANGEROUS INTERSECTIONS) OR INCOMPATIBLE USES (E.G., FARM EQUIPMENT) (LESS THAN SIGNIFICANT), RELATIVE TO THE 2016 RTP/SCS. IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.

The 2020 RTP/SCS includes roadway projects designed to alleviate existing and anticipated future congestion issues and to reduce traffic hazards. For example, the 2020 RTP/SCS includes projects to widen roadways, improve intersections, and/or to add passing lanes; when warranted, installation of such improvements can substantially improve roadway safety. While the 2020 RTP/SCS includes numerous projects that would involve a design/engineering process, only some of the project-specific designs and plans for these improvements are available for analysis at this time. Consistent with agency practice, all improvements would be designed to the standards and specifications of Caltrans or the appropriate implementing agency. As such, the 2020 RTP/SCS is not anticipated to cause a substantial increase in hazards due to design features or incompatible uses. Therefore, the 2020 RTP/SCS would not introduce a new impact relative to the 2016 RTP/SCS and impacts would remain less than significant.

Mitigation Measures

None required.

Threshold: Would the project result in inadequate emergency access?
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Impact T-4 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS UNDER THE 2020 RTP/SCS WOULD NOT RESULT IN INADEQUATE EMERGENCY ACCESS, RELATIVE TO THE 2016 RTP/SCS. IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.

In the short-term, implementation of the 2020 RTP/SCS would have the potential to affect emergency access during construction of individual projects included in the 2020 RTP/SCS. The implementing agency for each improvement project would be responsible for coordinating with the emergency service providers to ensure that emergency routes remain available. In the long-term, the 2020 RTP/SCS does not include any specific projects that would result in inadequate emergency access. Therefore, the 2020 RTP/SCS would not introduce a new impact relative to the 2016 RTP/SCS and impacts would remain less than significant.

Mitigation Measures

None required.

c. Specific Projects That May Result in Impacts

The analysis within this section discusses the potential transportation and circulation related impacts associated with the transportation improvement projects and the land use scenario envisioned by the 2020 RTP/SCS. The projects that comprise the program are evaluated herein in their entirety and all are intended to improve traffic circulation rather than cause adverse impacts. No specific projects that are likely to have an adverse impact on traffic/transportation system would be implemented; thus, none are specified within this section.

4.10 Tribal Cultural Resources

This section evaluates effects on tribal cultural resources in the Butte County region that would result from implementation of the 2020 RTP/SCS.

4.10.1 Setting

a. Tribal Resources

The Northern Sacramento Valley was historically occupied by the Penutian-speaking Maidu (Kroeber 1925). Adjacent native groups include the Miwok to the south; Wintun, Yana, Paiute, and Atsugewi to the north; the Washo to the east; and Patwin to the west (Kroeber 1925). The three geographical divisions of the Maidu are the Northeastern Maidu, Northwestern Maidu (sometimes referred to as the Konkow), and the Southern Maidu (sometimes referred to as the Nisenan). The distinction between these three groups is primarily based on language and topographic area (Kroeber 1925).

The Maidu permanent settlements were established on ridges separating streams, on crests, knolls, or terraces near or next to streams and rivers. The northeastern Maidu built their settlements along edges of the Sierra mountain range, open range to one side and pine timbered highlands to the other. Residential structures were often of two types: earth covered and large (k'um) or lean-to made from brush or bark (hübo). The k'um was often not only a dwelling but a dance hall and sweat house; whereas the hübo was more likely a single-family dwelling (Kroeber 1925).

The Maidu subsistence was based on a mix of fishing, collecting, and hunting. Maidu caught salmon and lamprey eel, while the northern mountain Maidu consumed trout as no other sources were available. Deer and elk were hunted in companies, driven over cliffs, or were cornered and shot/clubbed. Bear hunts were ceremonial and often conducted during hibernation. Other sustenance included rabbit, birds, and acorns. Rabbits, birds, and waterfowl were caught in nets and clubbed or noosed. Acorns were ground into mush and cooked (Kroeber 1925).

Shamans were important to the Maidu lifestyle. The shamans had the ability to heal the sick and interact with the spirits. The Maidu shamans are categorized as the valley shamans, the hill shamans, and the mountain shamans. The valley shamans aid others by interacting with the spirits and relieving pain and burying the cause. Other rituals included nonshamanistic doctoring such as dancing and singing over the troubled individual. The hill shamans believe in inherited abilities to communicate with ancestors. The hill shamans also distinguished proper doctors and dreamer shamans. The mountain shamans were similar to the hill shamans in their belief of inherited abilities; however, the mountain shamans believed that spirits were inherited from one shaman to another and new ownership had to be taken once a shaman passed away. The mountain shamans communicated with both human and animal spirits (Kroeber 1925).

The Maidu depended on tule for creating mats, baskets, boats, and other tools. Elder wood was used to make musical instruments including a flute Attacus cocoons, and a musical bow. Tools such as knives and arrowheads were made from obsidian which was traded for with northern tribes (Kroeber 1925).

b. Regulatory Setting

Assembly Bill 52

California Assembly Bill 52 of 2014 (AB 52) was enacted on July 1, 2015 and expands CEQA by defining a new resource category, “tribal cultural resources.” AB 52 establishes that “A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment.” (PRC Section 21084.2) It further requires that the lead agency avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources:

1. “Sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe” and meets either of the following criteria: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k); or
2. A cultural resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process with California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires that lead agencies “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the formal consultation process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Senate Bill 18

SB 18 of 2004 (California Government Code Section 65352.3) requires local governments to contact and consult with tribal organizations prior to making a decision to adopt or amend a general or specific plan. The tribal organizations eligible to consult have traditional lands in a local government’s jurisdiction and are identified, upon request, by the Native American Heritage Commission (NAHC). As noted in the California Office of Planning and Research’s Tribal Consultation Guidelines (2005), “The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places.”

c. Existing Conditions

BCAG initiated AB 52 consultation on October 18, 2019 by mailing letters to the Mechoopda Indian Tribe of the Chico Rancheria, KonKow Valley Band of Maidu Indians, Mooretown Rancheria, Enterprise Rancheria, and the Berry Creek Rancheria. Mechoopda Indian Tribe of the Chico Rancheria responded and requested consultation on November 14, 2019. No other tribes responded to the request for consultation within the 30-day window afforded by AB 52, or after the 30-day window as of October 2020, the time when this SEIR was drafted. Consultation with Mechoopda Indian Tribe of the Chico Rancheria concluded in February 2020.

4.10.2 Impact Analysis

a. Methodology and Significance Thresholds

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether a project's impacts would have a significant impact to tribal cultural resources:

1. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
 - b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The EIR associated with the 2016 RTP/SCS did not specifically address tribal cultural resources, as projects for which a Notice of Preparation was published prior to July 1, 2016 were not required to address this issue pursuant to AB 52.

Threshold: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?

Impact TCR-1 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS AND FUTURE PROJECTS INCLUDED IN THE LAND USE SCENARIO ENVISIONED IN THE 2020 RTP/SCS HAS THE POTENTIAL TO IMPACT TRIBAL CULTURAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

The Mechoopda Indian Tribe of the Chico Rancheria's consultation letter stated that the Plan Area includes ancestral lands of the Tribe and the Plan Area thus has a high sensitivity for tribal cultural resources. The Tribe requested careful and complete implementation of all statutory and regulatory mechanisms to protect tribal cultural resources that may be impacted by the 2020 RTP/SCS.

Tribal cultural resources of the Mechoopda Indian Tribe of the Chico Rancheria or other tribes that may be present in Butte County include, but are not limited to, Native American burial sites, village or occupation sites, traditional resource gathering locations and natural landforms. Therefore, tribal cultural resources could be encountered during implementation of the transportation improvement projects included in the 2020 RTP/SCS and the land use scenario envisioned by the 2020 RTP/SCS. Effects on tribal cultural resources are highly dependent on the individual project site conditions and the characteristics of a project. Impacts to tribal cultural resources may include damage or destruction of the resources. Adherence to the requirements of AB 52 encourages tribal consultation with local Native Americans, and requires the identification of project-specific substantial adverse effects on tribal cultural resources and appropriate project-specific mitigation

measures. If the transportation project sponsor agencies determines that a specific transportation or land use project could cause a substantial adverse change in the significance of a tribal cultural resource, the impact would be significant.

Mitigation Measures

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects. Butte County and the cities in the County should implement these measures, where relevant to land use projects implementing the 2020 RTP/SCS. These measures can and should be implemented for future land development pursuant to the 2020 RTP/SCS that would result in impacts to tribal cultural resources.

TCR-1(a) Identified Tribal Cultural Resources Impact Minimization

Transportation project sponsor agencies shall comply with AB 52, which may require formal tribal consultation. If the implementing agency determines that a project may cause a substantial adverse change to a tribal cultural resource, they shall implement mitigation measures identified in the consultation process required under PRC Section 21080.3.2, or shall implement the following measures where feasible to avoid or minimize the project-specific significant adverse impacts:

- Avoidance and preservation of the resources in place, including, but not limited to: designing and building the project to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space to incorporate the resources with culturally appropriate protection and management criteria.
- Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - Protecting the cultural character and integrity of the resource
 - Protecting the traditional use of the resource
 - Protecting the confidentiality of the resource
- Establishment of permanent conservation easements or other culturally appropriate property management criteria for the purposes of preserving or utilizing the resources or places.
- Native American monitoring by the appropriate tribe during soil disturbance for all projects in areas identified as sensitive for potential tribal cultural resources and/or in the vicinity (within 100 feet) of known tribal cultural resources.

TCR-1(b) Unanticipated Tribal Cultural Resources Impact Minimization

If unanticipated potential tribal cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and the appropriate tribal representative(s), the implementing agency, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service [NPS] 1983) shall be contacted immediately to evaluate the find. If, in consultation with the implementing agency, the archaeologist and/or tribal representative determines the discovery to be a tribal cultural resource and thus, significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with tribal representatives. If the resource cannot be avoided, a mitigation plan shall be developed to address tribal concerns.

Significance After Mitigation

Mitigation Measure TCR-1(a) would require implementation of mitigation identified through tribal consultation or other feasible mitigation to avoid impacts to identified tribal cultural resources. These measures would protect the resource's character, traditional use, and confidentiality. Mitigation Measure TCR-1(b) would ensure that impacts to unanticipated tribal cultural resources activities would be mitigated in consultation with tribal representatives. Implementation of the above measures would reduce impacts to tribal cultural resources to a less than significant level.

b. Specific RTP/SCS Projects that May Result in Impacts

All 2020 RTP/SCS projects that require construction may result in impacts to tribal cultural resources and, therefore, are not specifically identified in table format below. All 2020 RTP/SCS transportation projects are referenced in Section 2, *Project Description*. Additional analyses and AB 52 consultation with local tribes would be needed as the individual projects are implemented to determine the project-specific impact. The mitigation measures discussed above would apply to these specific projects.

All 2020 RTP/SCS projects that require ground disturbance outside of existing right-of-way may result in impacts discussed in Impact TCR-1, such as those listed in Table 4.4-3 in Section 4.4, *Cultural Resources*. Individual projects could create significant impacts related to tribal cultural resources but would not necessarily do so. Additional specific analysis will need to be conducted as the individual projects are implemented in order to determine the actual magnitude of impact. Mitigation measures discussed above could apply to these specific projects for tribal cultural resources.

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4.11 Wildfire

This section analyzes impacts related to wildfires in the BCAG region.

4.11.1 Setting

a. Physical Setting

Wildfires

In California, responsibility for wildfire prevention and suppression is shared by federal, state and local agencies. Federal agencies are responsible for federal lands in Federal Responsibility Areas. California has determined that some non-federal lands in unincorporated areas with watershed value are of statewide interest and have classified those lands as State Responsibility Areas (SRA), which are managed by the California Department of Forestry and Fire Protection (CAL FIRE). All incorporated areas and other unincorporated lands are classified as Local Responsibility Areas (LRA).

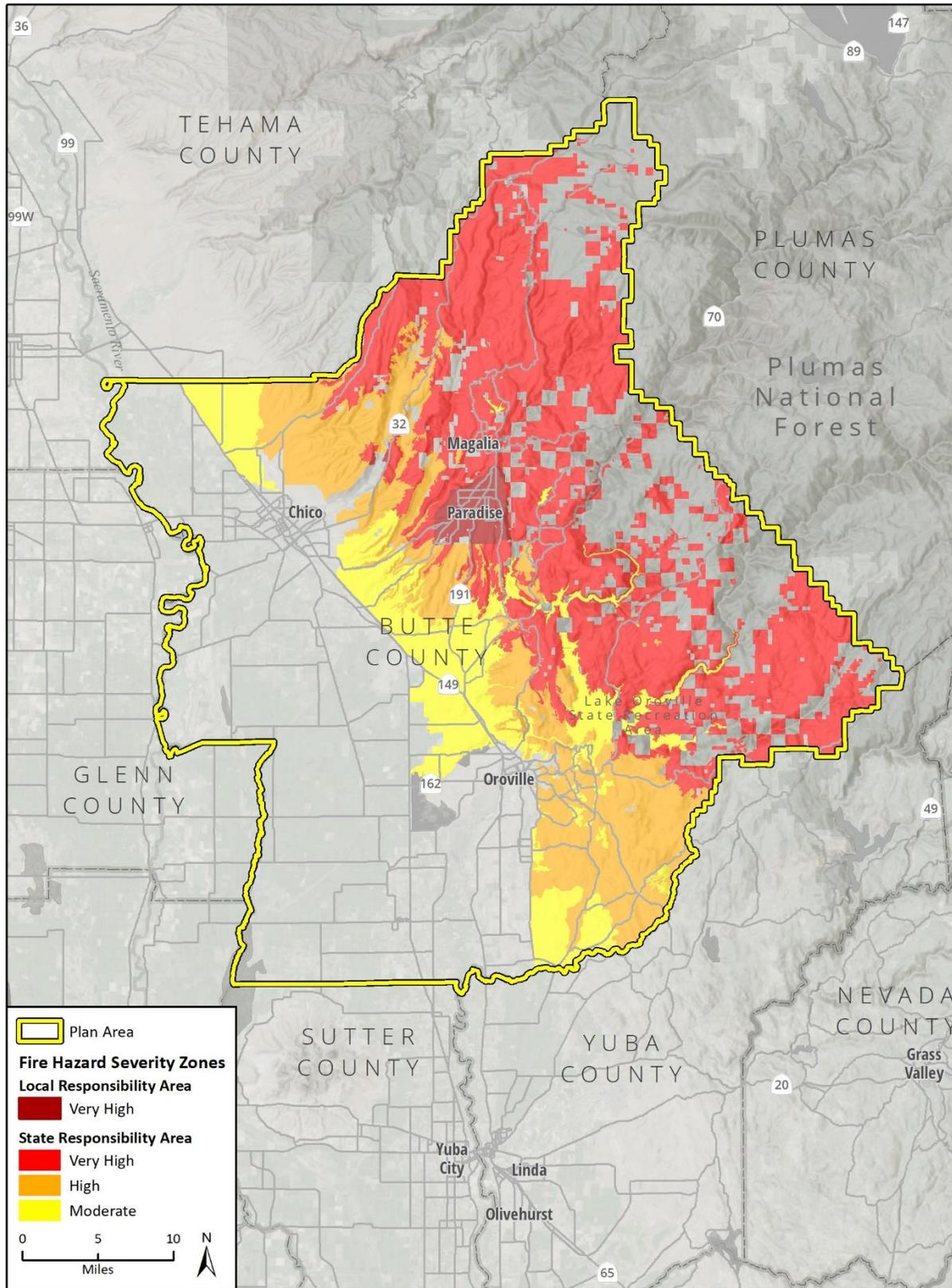
While all of California is subject to some degree of wildfire hazard, there are specific features that make certain areas more hazardous. CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather and other relevant factors (Public Resources Code [PRC] 4201-4204 and California Government Code 51175-89). Factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition and atmospheric conditions. CAL FIRE has identified two types of wildfire risk areas: 1) Wildland Areas That May Contain Substantial Forest Fire Risks and Hazards and 2) Very High Fire Hazard Severity Zones. Each risk area carries with it code requirements to reduce the potential risk of wildfires. Under state regulations, areas within very high fire hazard risk zones must comply with specific building and vegetation management requirements intended to reduce property damage and loss of life within these areas.

Throughout the BCAG region, there is a full range of conditions and fire hazards as indicated in the applicable Fire Hazard Severity Zone Maps for the region. According to the Butte County Fire Hazard Severity Zones in SRA (CAL FIRE 2007), the northeastern half of the county is designated a Very High Fire Hazard Severity Zone, with the majority of that being within CAL FIRE responsibility.

Figure 4.11-1 displays the fire hazard severity zones for Butte County.

Development that has spread into less densely populated, often hilly areas has increased the number of people living in heavily-vegetated areas that are prone to wildfire. The area where wildlands meet urban development is referred to as the wildland-urban interface and is subject to urban wildfire. The 2018 Camp Fire that devastated the community of Paradise is considered the deadliest wildfire in California, and the deadliest in the United States since 1918. The Camp Fire resulted in 85 deaths and destroyed 18,793 structures (CAL FIRE 2018a) and is an example of the major losses that can result from a fire in the wildlife-urban interface.

Figure 4.11-1 Butte County Fire Hazard Severity Zones



b. Regulatory Setting

Federal

Federal Disaster Mitigation Act

The Disaster Mitigation Act of 2000 provided a new set of mitigation plan requirements that encourage state and local jurisdictions to coordinate disaster mitigation planning and implementation. States are encouraged to complete a “Standard” or an “Enhanced” Natural Mitigation Plan. “Enhanced” plans demonstrate increased coordination of mitigation activities at the state level and, if completed and approved, increase the amount of funding through the Hazard Mitigation Grant Program. The State of California Multi-Hazard Mitigation Plan (SHMP) complies with this act.

State

The California Fire Plan

The Strategic Fire Plan for California is the State’s road map for reducing the risk of wildfire. The most recent version of the Plan was finalized in August 2018, and directs each CAL FIRE Unit to revise and update its locally-specific Fire Management Plan (CAL FIRE 2018b). These plans assess the fire situation within each of the 21 CAL FIRE units and six contract counties. The plans address wildfire protection areas, initial attack success, assets and infrastructure at risk, pre-fire management strategies, and accountability within their geographical boundaries.

California Office of Emergency Services

The California Office of Emergency Services prepares the SHMP, which identifies hazard risks and includes a vulnerability analysis and a hazard mitigation strategy. The SHMP is required under the Disaster Mitigation Act of 2000 in order for the State to receive federal funding. The Disaster Mitigation Act of 2000 requires a State mitigation plan as a condition of disaster assistance.

California Building Code (2019)

Chapter 7A of the California Building Code (California Code of Regulations, Title 24, Part 2) includes specific requirements related to exterior wildfire exposure. These requirements establish minimum standards to protect buildings located in Fire Hazard Severity Zone within SRAs and Wildland-Urban Interface Fire Areas. This code includes provisions for ignition-resistant construction standards for new buildings.

California Fire Code

The 2019 California Fire Code (California Code of Regulations, Title 24, Part 9) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of buildings or structures or any appurtenances connected or attached to such building structures throughout California.

Regional

City and County General Plans

Local planning policies related to wildfire hazards are established in each jurisdiction's general plan, generally in the Safety Element or equivalent chapter. For emergency services, some of the relevant policies include coordinating with other agencies that are responsible for planning medical facilities to meet the health care needs of residents in the region, retaining hospitals, evaluating medical facility proposals, providing emergency response services and participating in mutual-aid agreements.

The Butte County General Plan Health and Safety Element contains goals and policies with the specific intention of reducing the region's risk of fire hazards. For instance, Policy HS-P11.1 stipulates that "Fire hazards shall be considered in all land use and zoning decisions, environmental review, subdivisions review and the provision of public services" (Butte County 2010). Similarly, the Chico General Plan Safety Element contains policies aimed at incorporating fire safety measures when considering development, such as Policy S-4.2 which calls for support of standards and programs that reduce fire hazards (City of Chico 2017). The Biggs General Plan also contains objectives, policies, and implementation measures intending to incorporate applicable fire safety standards into new development and to manage vegetation to reduce fire hazards, such as Policy S-4-4 and S-4-5 (City of Biggs 2014). The Gridley General Plan Safety Element contains two policies (Safety Policies 4.1 and 4.2) specifically related to fire hazards that call for requiring development standards that are based on CAL FIRE recommendations, and to consult with fire protection service providers when reviewing development proposals (City of Gridley 2009). Finally, the Town of Paradise General Plan includes policies in both the Land Use and Safety Elements related to maintaining effective fire prevention and response services, ensuring development projects plan for potential fire hazards, and coordination between departments and agencies for mitigation and response (Town of Paradise 2008).

Furthermore, Senate Bill 1241 (SB 1241) requires that housing element updates after 2014 include revisions that address the risk of fire in SRAs and very-high fire hazard severity zones. These revisions must take into account specified considerations, including the provisions outlined in "Fire Hazard Planning" by the Governor's Office of Planning and Research.

Local Hazard Mitigation Plan

Local jurisdictions develop, adopt and update hazard mitigation plans to establish guiding principles for reducing hazard risk, as well as specific mitigation actions to eliminate or reduce identified vulnerabilities. The Butte County Local Hazard Mitigation Plan (2019) serves to reduce or eliminate long-term risk to people and property from natural hazards and their effects in the BCAG region, including the unincorporated county; cities of Biggs, Chico, Gridley, Oroville; town of Paradise; and various utility and park districts in the county. The plan includes goals and policies to reduce the fire severity and intensity in the county through wildfire prevention, fuels management, and maintenance of evacuation routes. The Local Hazard Mitigation Plan is required to be updated every five years.

4.11.2 Impact Analysis

a. Methodology and Significance Thresholds

Pursuant to the *CEQA Guidelines*, potentially significant impacts to wildfire would result if the

project, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The EIR prepared for the 2016 RTP/SCS did not address wildfire impacts in an individual section, as this issue area was added to the CEQA Checklist as a standalone resource as part of the December 2018 *CEQA Guidelines* update. The methodology used for the following evaluation is based on a review of documents and publicly available information about wildfire conditions in the BCAG region to determine the potential for implementation of the 2020 RTP/SCS to result in increased wildfire risks. This includes city and county planning documents. This program-level analysis is based on an overall understanding of the key fire safety concerns that could result from implementation of the 2020 RTP/SCS. The evaluation of wildfire impacts reasonably assumes that the construction and development under the 2020 RTP/SCS would adhere to the latest federal, state and local regulations, and conform to the latest required standards in the industry, as appropriate for individual projects.

b. Project Impacts and Mitigation Measures

This section describes generalized impacts associated with the 2020 RTP/SCS. Due to the programmatic nature of the 2020 RTP/SCS, a precise, project-level analysis of the specific impacts associated with individual transportation and land use projects is not possible. In general, however, implementation of proposed transportation improvements and future projects under the land use scenario envisioned by the 2020 RTP/SCS would result in wildfire impacts as described in the following section.

Threshold:	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan.
Threshold:	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
Threshold:	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
Threshold:	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Impact WF-1 THE 2020 RTP/SCS INCLUDES PROJECTS WITHIN AREAS OF MODERATE, HIGH, AND VERY HIGH FIRE HAZARD SEVERITY ZONES. A SIGNIFICANT RISK OF LOSS, INJURY, OR DEATH FROM WILDFIRES WOULD OCCUR FOR LAND USE AND TRANSPORTATION PROJECTS LOCATED IN OR NEAR (WITHIN 2 MILES OF) SRAs OR VERY HIGH FIRE HAZARD SEVERITY ZONES. IMPLEMENTATION OF MITIGATION MEASURE WF-1 WOULD REDUCE IMPACTS; HOWEVER, WILDFIRE RISK CANNOT BE COMPLETELY AVOIDED, AND IMPACTS WOULD REMAIN SIGNIFICANT AND UNAVOIDABLE.

As shown in Figure 4.11-1, CAL FIRE has mapped much of eastern Butte County as having a high or very high fire hazard, both in SRAs and LRAs. The land use scenario envisioned by the 2020 RTP/SCS concentrates the forecasted population and employment growth in urban areas and corridors of the County, such as incorporated cities, unincorporated towns, and major roadways, where the risk of wildfire is less than in more rural areas where fuels are more abundant. However, as evidenced by the 2018 Camp Fire, urban areas are also susceptible to wildfires, despite the lower abundance of typical wildfire fuels. This land use scenario is similar to that contained in the 2016 RTP/SCS, which concentrates the forecasted regional population and employment growth in urban areas and corridors of the County while preserving the distinct identity of existing cities and towns. However, not all projects and development included in the 2020 RTP/SCS would be infill projects in urbanized areas, and some projects would inevitably be located in areas at risk of wildfires. Additionally, CAL FIRE has mapped some urbanized areas within the region as moderate, high, or very high fire hazard severity zones (Figure 4.11-1), and, as evidenced by the 2018 Camp Fire, urban areas are still at risk from wildfire.

New construction would be subject to the California Fire Code, which includes safety measures to minimize the threat of fire, including ignition-resistant construction with exterior walls of noncombustible or ignition resistant material from the surface of the ground to the roof system and sealing any gaps around doors, windows, eaves and vents to prevent intrusion by flame or embers. Title 14 of the California Code of Regulations sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent loss of structures or life by reducing wildfire hazards. The codes and regulations would reduce the risk of

loss, injury or death from wildfire for new development envisioned by the 2020 RTP/SCS, but not entirely.

Land use development projects in the 2020 RTP/SCS (including any land use development projects from the 2016 RTP/SCS that have not been constructed) that would be located within or less than 2 miles from an SRA or very high fire hazard severity zones, would have potentially significant wildfire impacts, as existing codes and regulations cannot fully prevent wildfires from damaging structures or populations. These projects would increase the exposure of transportation infrastructure to risk of loss or damage from wildfire. Mitigation Measure WF-1 is provided below to reduce the risk of wildfire for these projects.

However, it should be noted that land use and transportation projects located outside or more than 2 miles from an SRA or very high fire hazard severity zones would not require mitigation.

Mitigation Measures

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measure for the 2020 RTP/SCS where applicable for land use and transportation projects that result in impacts related to wildfire. Cities and counties in the Butte County region should implement these measures, where relevant to land use projects implementing the 2020 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

WF-1 Wildfire Risk Reduction

If an individual transportation or land use project included in the 2020 RTP/SCS is located within or less than 2 miles from an SRA or very high fire hazard severity zones, the implementing agency shall require appropriate mitigation to reduce the risk. Examples of mitigation to reduce risk of loss, injury or death from wildfire include, but are not limited to:

- Require adherence to the local hazards mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildfires through land use compatibility, training, sustainable development, brush management, public outreach and service standards for fire departments.
- Encourage the use of fire-resistant vegetation native to Butte County and/or the local microclimate of the project site, and discourage the use of fire-prone species especially non-native, invasive species.
- Require a fire safety plan be submitted to and approved by the local fire protection agency. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. The local fire protection agency may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase of the project.
- Prohibit certain project construction activities with potential to ignite wildfires during red-flag warnings issued by the National Weather Service for the project site location. Example activities that should be prohibited during red-flag warnings include welding and grinding outside of enclosed buildings.
- Require fire extinguishers to be onsite during construction of projects. Fire extinguishers shall be maintained to function according to manufacturer specifications. Construction personnel shall receive training on the proper methods of using a fire extinguisher.

Significance After Mitigation

With implementation of this mitigation, the risk of loss of structures and transportation infrastructure and the risk of injury or death due to wildfires would be reduced. These measures would make structures and transportation infrastructure more fire resistant and less vulnerable to loss in the event of a wildfire. These measures would also reduce the potential for construction of 2020 RTP/SCS projects to inadvertently ignite a wildfire. However, it is not possible to prevent a significant risk of wildfires or fully protect people and structures from the risks of wildfires, despite implementation of mitigation. Thus, this impact would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

c. Specific 2020 RTP/SCS Projects That May Result in Impacts

As discussed above, specific 2020 RTP/SCS projects that would result in significant wildfire impacts are those located within or less than 2 miles from an SRA or very high fire hazard severity zones. These projects would increase exposure of transportation infrastructure and land use development, the public that would use that infrastructure and development, and the maintenance personnel that would service that infrastructure to risk of loss or damage due to wildfire. 2020 RTP/SCS projects that do not meet these criteria would have no impacts to wildfire.

4.12 Other Environmental Issue Areas Analyzed

CEQA Guidelines Section 15128 requires an EIR to briefly describe any possible significant effects that were determined not to be significant and, therefore, were not discussed in detail. This section addresses the potential environmental effects of the 2020 RTP/SCS that clearly would not be significant and are not addressed in the preceding sections of this SEIR. The purpose of the 2020 RTP/SCS SEIR is to augment the previously certified EIR for the 2016 RTP/SCS and to analyze changes in the 2016 RTP/SCS or changes in circumstances under which the RTP/SCS projects would be implemented since certification of the previous 2016 EIR. Therefore, for issue areas where impacts would be similar to or less than the impact level identified in the previous 2016 EIR, no further analysis is warranted. Thus, impacts determined to be less than significant in the 2016 RTP/SCS EIR are included in this section, along with applicable previously certified mitigation measures to reduce impacts.

The discussion is based on the thresholds contained in the *CEQA Guidelines* Appendix G. Any items not addressed in this section are addressed in Sections 4.1 through 4.11 of this SEIR.

4.12.1 Forest Resources

Appendix G of the *CEQA Guidelines* states that a significant impact on forest resources may result if the project would:

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use.

Butte County has a long growing season and deep soils, which creates good growing conditions for mixed conifer forest in the northeastern portion of the county. Forests in the Plan Area are dominated by sugar pine, ponderosa pine, Douglas fir, white fir, and incense cedar; therefore, timber production occurs in the Plan Area. Timberlands occur on both public and private lands, with some logging controlled by the United States Forest Service (USFS) and some regulated by the California Department of Forestry and Fire Protection (CalFIRE). In order for any forestland to be converted from timber production to an alternate use, a Timberland Conversion Permit (TCP) would need to be issued by CalFIRE, which acts as the lead agency under CEQA for forestland, with the County being the responsible agency. In order for a TCP to be approved by CalFIRE, the project plan must incorporate mitigation measures to substantially lessen or avoid environmental impacts. The 2020 RTP/SCS would not conflict with forestland or timberland and any projects that would occur in forestland or timberland as a result of the 2020 RTP/SCS would be required to adhere to USFS and/or CalFIRE requirements including the preparation of TCP if applicable. Thus, impacts related to forestland or timberland would be less than significant.

4.12.2 Geology and Soils

Appendix G of the *CEQA Guidelines* states that a significant impact on geology and soils may result if the project would:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
 - Strong seismic ground shaking;
 - Seismic-related ground failure, including liquefaction;
 - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on 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;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Impacts to paleontological resources and unique geologic features are analyzed in Section 4.4, *Cultural Resources*, consistent with the 2016 RTP/SCS EIR. Additionally, the 2020 RTP/SCS does not propose to install septic systems for any new or modified projects or as part of the RTP/SCS. There would be no impact.

The Cleveland Hills fault is the only active fault in Butte County identified by the Alquist-Priolo Earthquake Fault Zoning Map (California Department of Conservation 2015). Seismic activity can also be caused by faults located as far as 100 miles away, including Coast Ranges faults, the San Andreas Fault, the Midland-Sweitzer Fault, the Melones Fault zone, and Eastern Sierra faults. Smaller active faults are also present in Butte County and surrounding areas that could be potentially active. Future seismic events could significantly impact Butte County and earthquakes with a magnitude of up to 7.0 are possible. Butte County is also susceptible to liquefaction, landslides, erosion, expansive soils, and subsidence (Butte County General Plan, Health and Safety Element). While transportation projects in the 2020 RTP/SCS have the potential to be exposed to these hazards, the incorporation of mitigation measures GEO-1(a) and GEO-1(b) included in the 2016 RTP/SCS Initial Study would reduce the impact to less than significant.

Mitigation Measure

The following mitigation measures included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR for projects that could potentially be adversely affected by seismic ground shaking, liquefaction, seiches, landslides, erosion, expansive soils, and/or subsidence.

- GEO-1(a)** For a 2020 RTP/SCS project involving a bridge, the lead agency shall ensure that the structure is designed and constructed to the latest geotechnical standards. In most cases, this will necessitate site-specific geologic and soils engineering investigations to exceed the code for high ground shaking zones. This can be accomplished through the placement of conditions on the project by the lead agency during individual environmental review.
- GEO-1(b)** For a 2020 RTP/SCS project that involves cut slopes over 15 feet in height, the lead agency shall ensure that specific slope stabilization studies are conducted. Possible stabilization methods include buttresses, retaining walls, and soldier piles.

Significance After Mitigation

Implementation of Mitigation Measure GEO-1 requires bridge projects to be designed in accordance with geotechnical studies conducted for each individual project site, and requires slope stabilization studies for projects involving cut slopes over 15 feet in height. Compliance with the above mitigation measure and all existing state, local and/or federal regulations would reduce impacts to a less-than-significant-level.

4.12.3 Hazards and Hazardous Materials

The *CEQA Guidelines* Appendix G states that a significant impact on hazards and hazardous materials may result if the project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Transportation projects under the 2020 RTP/SCS could potentially facilitate the transport of hazardous materials on roadways in the Plan Area but would not directly result in a transportation related hazards. All transport of hazardous materials would be required to comply with existing laws and regulations, such as the federal Resource Conservation and Recovery Act (RCRA) and the state Hazardous Waste Control Act and California Vehicle Code. This would ensure that the transport of hazardous materials, the handling of hazardous substances within proximity to schools, and the release of hazardous materials would be adequately controlled such that impacts would be less than significant.

With respect to hazardous materials sites listed under Government Code Section 65962.5, the majority of transportation improvements involve modification of existing facilities, rather than construction of new facilities, and would not occur on known hazardous sites (California Department of Toxic Substances 2020; State Water Resources Control Board 2020). With regard to future projects that would develop new facilities, because of the programmatic nature of the project, it is not possible to determine with accuracy whether future projects located on previously undisturbed land would contain hazardous materials. However, the sponsor agency for such projects would be required to address any on-site environmental issues, including any potential hazardous materials and mitigate such impacts accordingly. Because the transportation improvement projects included in the 2020 RTP/SCS are not substantially different from those included in the 2016 RTP/SCS, no new or substantially more severe impacts would occur compared to the 2016 RTP/SCS as evaluated in the 2016 RTP/SCS EIR. Impacts would be less than significant. Impacts would be less than significant.

New projects proposed under the 2020 RTP/SCS may be located within an airport land use plan or within two miles of a public airport or public use airport, including the Chico, Paradise, and Ranchoero Airports. However, no new projects listed in the 2020 RTP/SCS compared to the 2016 RTP/SCS would directly expose people or create a new airport safety hazard. Impacts would be less than significant.

The implementation of the 2020 RTP/SCS would not have an adverse effect on adopted emergency response plans or emergency evacuation plans. By improving roadways and circulation in the Plan Area, there could be a beneficial impact on emergency response and evacuation. Impacts would be less than significant.

In light of recent wildfire events in California and particularly in Butte County, transportation improvement projects and the land use scenario envisioned by the 2020 RTP/SCS would potentially increase wildland fire risk or increase exposure of people or structures to wildland fires. A detailed analysis of the potential for significant risk of loss, injury, or death involving wildland fires is included in Section 4.11, *Wildfire*.

4.12.4 Hydrology and Water Quality

The *CEQA Guidelines* Appendix G states that a significant impact on hydrology and water quality may result if the project would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface of ground water quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:
 - Result in substantial erosion or siltation on- or off-site;
 - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
 - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
 - Impede or redirect flood flows;

- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Drainage patterns may be altered as a result of projects associated with the 2020 RTP/SCS. Projects may introduce impervious surfaces in undeveloped areas, which could result in increased surface runoff that has the potential to affect surface water quantities, result in changes to absorption rates, discharge degraded surface water quality, affect the capacity of existing or planned drainage systems, and/or create erosion. Therefore, implementation of proposed transportation improvements and future projects associated with the 2020 RTP/SCS would result in both short-term and long-term impacts to water quality. Due to the programmatic nature of the 2020 RTP/SCS, a precise, project-level analysis of the specific impacts of individual transportation projects on water quality is not possible at this time. However, the general nature of water quality impacts are described below.

Certain transportation improvements, such as road widening and expansion, as well as infill projects, would increase overall impervious surface area throughout the County. These projects may generate significant adverse impacts to surface water quality. Pollutants and chemicals associated with urban activities would run off new roadways and other impervious surfaces flowing into nearby bodies of water during storm events. These pollutants would include but are not limited to: heavy metals from auto emissions, oil, grease, debris, and air pollution residues. Such contaminated urban runoff may remain largely untreated, thus resulting in the incremental long-term degradation of water quality.

Short-term adverse impacts to surface water quality may also occur during the construction periods of individual improvement projects because areas of disturbed soils would be highly susceptible to water erosion and downstream sedimentation. This impact is of particular concern where projects are located on previously contaminated sites. Without effective erosion and storm water control, contaminated soils exposed during construction activities may result in surface water contamination. In addition, grading and vegetation removal in proximity to creeks for construction, widening, and repair of bridges could result in an increase in erosion and sedimentation of creek banks. This could affect both water quality and the stability of slopes along the creeks. Regulations under the federal Clean Water Act require that a National Pollutant Discharge Elimination System (NPDES) storm water permit be obtained for projects that would disturb greater than an acre. Acquisition of the General Construction permit is dependent on the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that contains specific actions, termed Best Management Practices (BMPs) to control the discharge of pollutants, including sediment, into the local surface water drainages. Many 2020 RTP/SCS projects, especially roadway extensions at the periphery of cities, would be subject to these regulations. Short- and long-term impacts to water quality would be reduced with implementation of Mitigation Measures W-1(a) through W-1(c) from the 2016 RTP/SCS EIR.

Portions of Butte County lie in Federal Emergency Management Agency flood zones. Transportation projects associated with the 2020 RTP/SCS have the potential to expose people or structures to flooding and to impede or redirect flood flows. Implementation of proposed transportation improvements and future projects associated with the 2020 RTP/SCS could be subject to flooding hazards due to storm events and/or dam failure. Due to the programmatic nature of the 2020 RTP/SCS, a precise, project-level analysis of the specific impacts of individual transportation projects

on flooding hazards is not possible at this time. However, the general nature of these hazards, and their potential impacts, are described below.

Proposed transportation improvements and future projects envisioned by the 2020 RTP/SCS in low-lying areas and in proximity to waterways and/or dam inundation zones may be subject to the hazard of flooding. According to the Butte County Local Hazard Mitigation Plan Update 2019, there are 35 dams located in the County, 16 of which are rated high hazard, 5 as significant hazard, and 4 as low hazard (Butte County 2019). Dam failure, overtopping, and inundation at any of these dams would potentially subject 2020 RTP/SCS projects to inundation. The effects of flooding could include temporary inundation of a facility that impedes its use or causes long-term damage to the facility. Flooding may also cause immediate damage to roadways and bridges, particularly during high-velocity flood events that wash away or erode facilities. This would typically occur adjacent to rising rivers or streams. Any facility within the flood zone of a stream would be subject to impacts. Erosion caused by flooding can damage paved facilities, and bridge supports can be undermined or washed away. Flood hazards can also endanger occupants of habitable structures. Impacts related to flooding, redirecting flows, and inundation would be reduced with implementation of Mitigation Measures W-2(a) and W-2(b) from the 2016 RTP/SCS EIR.

Butte County is located inland and is not located in a tsunami zone, and therefore is not at risk of release of pollutants due to inundation. No seiches have been recorded in the Plan Area. While the potential for seiches does exist, the likelihood is low and the majority of 2020 RTP/SCS projects would be improvements to existing roadways and would not introduce new facilities to the environment. Any new facilities would be required to address any on-site environmental issues. Impacts related to tsunami and seiche hazards would be less than significant.

Butte County contains three groundwater subbasins: the larger Sacramento Valley Groundwater Basin including the Butte, Vina, and Wyandotte Creek Subbasins. In September 2014, the California Legislature enacted comprehensive legislation aimed at strengthening local control and management of groundwater basins throughout the state. Known as the Sustainable Groundwater Management Act (SGMA), the legislation provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention when necessary to protect the resource. The Vina Subbasin is considered to have a high priority ranking by the by the Department of Water Resources (DWR), while the Butte and Wyandotte Creek Subbasins are ranked medium priority. All of these basins would therefore be subject to the SGMA and are required to submit a Groundwater Sustainability Plan (GSP). All three Subbasins have formed Groundwater Sustainability Agencies (GSAs) and are in the process of drafting GSPs that the GSAs plan to complete by 2022 for DWR review. Although, the GSPs are not completed at the time of this analysis, future projects would be required to comply with GSPs, and the 2020 RTP/SCS would not conflict with or obstruct implementation of a sustainable groundwater management plan. Therefore, impacts would be less than significant.

Mitigation Measures

The following mitigation measures included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

- W-1(a)** The sponsor agency of a 2020 RTP/SCS project shall ensure that fertilizer/pesticide application plans for any new right-of-way landscaping are prepared to minimize deep percolation of contaminants. The plans shall specify the use of products that are safe for use in and around aquatic environments.
- W-1(b)** The sponsor agency of a 2020 RTP/SCS widening or roadway extension project shall ensure that the improvement directs runoff into subsurface percolation basins and traps which would allow for the removal of urban pollutants, fertilizers, pesticides, and other chemicals.
- W-1(c)** For a 2020 RTP/SCS project that would disturb at least one acre, a SWPPP shall be developed prior to the initiation of grading and implemented for all construction activity on the project site. The SWPPP shall include specific BMPs to control the discharge of material from the site and into the creeks and local storm drains. BMP methods may include, but would not be limited to, the use of temporary retention basins, straw bales, sand bagging, mulching, erosion control blankets and soil stabilizers.
- W-2(a)** If a 2020 RTP/SCS project is located in an area with high flooding potential due a storm event or dam inundation, the individual project lead agency shall ensure that the structure is elevated at least one foot above the 100-year flood zone elevation and that bank stabilization and erosion control measures are implemented along creek crossings.
- W-2(b)** For 2020 RTP/SCS projects within a dam failure inundation hazard zone, the project's lead agency shall ensure that a comprehensive flood risk communication strategy is developed, which would include an evacuation plan and/or an Emergency Action Plan and promote dam failure risk awareness and safety.

Significance After Mitigation

Adherence to applicable NPDES storm water permits and SWPPPs, in addition to incorporation of Mitigation Measures W-1(a), W-1(b), and W-1(c) included in the 2016 RTP/SCS Initial Study would reduce impacts related to water quality to a less than significant level. Incorporation of Mitigation Measures W-2(a) and W-2(b) included in the 2016 RTP/SCS Initial Study would reduce impacts related to flooding to a less than significant level.

4.12.5 Land Use and Planning

Appendix G of the *CEQA Guidelines* states that a significant impact on land use and planning may result if the project would:

- Physically divide an established community;
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Projects under the 2020 RTP/SCS are designed to improve traffic and circulation throughout the Plan Area. However, the implementation of 2020 RTP/SCS projects could temporarily or permanently disrupt existing residences and business. During construction on both new and existing roadways, businesses may be temporarily disrupted through temporary road or land closures, or blockage of access to parking. Projects that involve extension of roadways may result in displacement of residents or businesses. While the majority of transportation projects would occur

within the existing roadway rights-of-way, it is possible that future projects, particularly widening or expansion projects, could encroach onto private property or limit access. Access and disruption impacts associated with construction would occur to varying degrees with all construction projects but would be most acute in urban areas with high volumes of traffic and businesses that depend upon ease of vehicular access. Impacts related to dividing an established community would be reduced with implementation of Mitigation Measures LU-1(a) through LU-1(c) from the 2016 RTP/SCS EIR.

State-level policies applicable to the 2020 RTP/SCS include MAP-21, Caltrans Smart Mobility 2010, and Senate Bill (SB) 375. The 2020 RTP/SCS contains goals that guide future transportation improvement projects and land use patterns within the region. The goals of the 2020 RTP/SCS are based on, and consistent with, both the planning factors stated in MAP-21, and the Caltrans Smart Mobility 2010 framework, tailored to the Butte County region. Additionally, the Butte County General Plan and the general plans of the five incorporated cities in the County each provide for cooperation with BCAG as the Regional Transportation Planning Agency in their respective Circulation Elements. The 2020 RTP/SCS represents a voluntary strategy that retains local government land use autonomy. Neither SB 375 nor any other law requires local member agency general plans or land use regulation be consistent with the 2020 RTP/SCS. Full participation, therefore, is dependent on local government policy decisions and voluntary local government action.

The objective of the 2020 RTP/SCS is to provide for a comprehensive transportation system of facilities and services that meet the public's need for the movement of people and goods, and that is consistent with the social, economic, and environmental goals and policies of the region. Therefore, impacts regarding conflict with local plans, policies, and regulations, would be less than significant.

Mitigation Measures

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

- LU-1(a)** The individual project lead agency of 2020 RTP/SCS projects with the potential to displace residences or businesses should assure that project-specific environmental reviews consider alternative alignments and developments that avoid or minimize impacts to nearby residences and businesses.
- LU-1(b)** Where project-specific reviews identify displacement or relocation impacts that are unavoidable, the individual project lead agency should ensure that all applicable local, state, and federal relocation programs are used to assist eligible persons to relocate. In addition, the lead agency shall review the proposed construction schedules to ensure that adequate time is provided to allow affected businesses to find and relocate to other sites.
- LU-1(c)** For all 2020 RTP/SCS projects that could result in temporary lane closures or access blockage during construction, a temporary access plan should be implemented by the lead agency to ensure continued access to affected cyclists, businesses, and homes. Appropriate signs and safe access shall be guaranteed during project construction to ensure that businesses remain open.

Significance After Mitigation

Implementation of mitigation measures LU-1(a-c) included in the 2016 RTP/SCS Initial Study would reduce impacts to less than significant.

4.12.6 Noise

The *CEQA Guidelines* Appendix G states that a significant impact on noise may result if the project would:

- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

There are three airports within Butte County (Paradise Airport, Chico Municipal Airport, and Ranchoero Airport). Some projects associated with the 2020 RTP/SCS may be located within an airport land use plan or within two miles of a public airport or public use airport. Any future transportation improvement project under the 2020 RTP/SCS located within an airport land use plan zone and/or applicable noise contour would be subject to the policies of the Airport Land Use Commission pertaining to noise exposure. This ensures that noise attenuation features are implemented into the project as necessary. Therefore, impacts would be less than significant.

4.12.7 Public Services

The *CEQA Guidelines* Appendix G states that a significant impact on public services may result if the project would:

- Result in substantial adverse physical impacts associated with the need for or provision of new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other objectives for:
 - Fire protection;
 - Police protection;
 - Schools;
 - Parks;
 - Other public facilities.

The transportation projects associated with the 2020 RTP/SCS would not generate demand for police or fire services, schools, parks, or other facilities. The 2020 RTP/SCS is designed to improve circulation and movement in the Plan Area and would facilitate police and fire movement throughout the County. The 2020 RTP/SCS would not induce new population growth beyond growth already anticipated by the General Plans of the County and five cities in Butte County and therefore would not increase the use of police, fire, schools, parks, or other public services. Planned transportation improvements would be expected to improve service response times. The impact of the 2020 RTP/SCS on public services would be less than significant.

4.12.8 Utilities and Service Systems

The *CEQA Guidelines* Appendix G states that a significant impact on utilities and service systems may result if the project would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals;
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

The 2020 RTP/SCS consists of transportation improvements and modifications to enhance maneuverability throughout the Plan Area. These improvements would not exceed wastewater treatment requirements, require construction or expansion of wastewater treatment facilities, require a determination by the wastewater treatment provider, or conflict with regulations pertaining to solid waste. Construction activities may generate solid waste that would need to be disposed of at a local landfill. However, the waste generation would be temporary and reduced by compliance with the California Green Building Code, which requires that construction operations recycle a minimum of 50 percent of waste generation. Future infill projects envisioned by the land use scenario in the 2020 RTP/SCS may need to connect to sewer services, increase demand for wastewater treatment, or require the upgrading of sewers. These would be addressed at the time of the projects by the local agency. These projects may also generate additional solid waste that would need disposed of at a local landfill. However, these additional demands would not exceed the anticipated demand from current growth anticipated in the General Plan of the County and each of the five cities within the County. The 2020 RTP/SCS would not result in increased growth above what is already anticipated. Therefore, impacts to public utilities would be less than significant.

Sixty-nine percent of Butte County's water supply is from surface water from the Sacramento River watershed and 31 percent is groundwater, with the majority of water usage, 71 percent, being used for agricultural purposes (Butte County General Plan 2030, Water Resources Element 2012). Primary surface waterways include the Feather River and its several tributaries, as well as Butte Creek and Big Chico Creek. Reserves of groundwater are found in the Sacramento Valley and the mountains areas to the east and north.

Implementation of proposed transportation improvements and future projects facilitated by land use scenario envisioned in the 2020 RTP/SCS would result in both short-term and long-term impacts to the County's water supply. Due to the programmatic nature of the 2020 RTP/SCS, a precise, project-level analysis of the specific impacts of individual transportation projects on water supply is not possible at this time. However, the general nature of water supply impacts is described below.

During grading and general construction activities, water would be needed to suppress fugitive dust generated by construction equipment. Water used during construction could be drawn from

waterways such as the Feather River, Butte Creek, or Big Chico Creek, supplies of which would potentially be in deficit during drought years. Because this could contribute further to any potential water supply deficit, the short-term water impact of the proposed plan is considered potentially significant.

The majority of transportation improvements involve modification of existing infrastructure. As such, a substantial increase in landscaped areas, and thereby increase in water demand, is not anticipated for these projects. Projects involving construction of new bike and pedestrian paths could include landscaping, which may require water supply. Irrigation of landscaping associated with these projects, and other projects in the 2020 RTP/SCS, would generate demand for water. In addition, future infill development projects or development along key corridors constructed in accordance with the 2020 RTP/SCS's preferred growth scenario would require water supply. The precise size and type of these projects is not known at this time; however, such development would require potable water. Impacts related to water demand would be reduced with implementation of Mitigation Measures UTI-(a), UTI-1(b), UTI-(c), and UTI-(e) from the 2016 RTP/SCS EIR.

Major 2020 RTP/SCS projects, such as road widenings and expansions, as well as new sidewalks, throughout the Plan Area could also affect groundwater supplies by incrementally reducing groundwater recharge potential. This reduction in groundwater recharge could occur because the impermeable surfaces associated with the proposed improvements would increase surface water runoff at the expense of natural infiltration. The magnitude of impacts associated with individual 2020 RTP/SCS projects cannot be accurately determined at this programmatic stage of analysis. Nevertheless, given the potential for water supply deficit of the County's hydrological resources during drought years, the reduction in groundwater recharge is considered to be potentially significant.

Mitigation Measures

The following mitigation measures included in the 2016 RTP/SCS would apply to the 2020 RTP/SCS.

BCAG shall and transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects. Butte County and cities in the County should implement these measures originally required by the 2016 RTP/SCS EIR where relevant to land use projects implementing the 2020 RTP/SCS.

- UTI-1(a)** The individual lead agency of a 2020 RTP/SCS project shall ensure that, where economically feasible, reclaimed water is used for dust suppression during construction activities. This measure shall be noted on construction plans and shall be spot checked by the lead agency.
- UTI-1(b)** The individual lead agency of a 2020 RTP/SCS project shall ensure that low water use landscaping (i.e., drought tolerant plants and drip irrigation) is installed. When feasible, native plant species shall be used.
- UTI-1(c)** The individual lead agency of a 2020 RTP/SCS project shall ensure that, if feasible, landscaping associated with proposed improvements is maintained using reclaimed water.
- UTI-1(d)** The individual lead agency of a 2020 RTP/SCS project shall ensure that porous pavement materials are utilized, where feasible, to allow for groundwater percolation.

UTI-1(e) The individual lead agency of a 2020 RTP/SCS project that requires potable water service should coordinate with water supply system operators to ensure that the existing water supply systems have the capacity to handle the increase. If the current infrastructure servicing the project site is found to be inadequate, infrastructure improvements for the appropriate public service or utility should be provided by the project sponsor. In addition, wherever feasible, reclaimed water should be used for landscaping purposes instead of potable water.

Significance After Mitigation

Incorporation of mitigation measures UTI-1(a) through UTI-1(e) included in the 2016 RTP/SCS Initial Study would reduce impacts related to water supply to a less than significant level.

5 Other CEQA Required Discussions

This section analyzes the impacts of the 2020 RTP/SCS on growth inducing and long-term effects. A similar analysis was provided in the 2016 EIR prepared for the 2016 RTP/SCS; however, minor updates to transportation projects and land use development are included in the 2020 RTP/SCS, which requires an updated analysis.

5.1 Growth Inducement

Section 15126.2(d) of the *CEQA Guidelines* requires a discussion of a proposed project's potential to induce growth. Specifically, an EIR must discuss the ways in which the proposed project could foster economic or population growth. Included in this are projects which would remove obstacles to population growth. In addition, the EIR must discuss how the project may encourage and/or facilitate other activities that could significantly affect the environment. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. Economic and population growth do not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant environmental effects. A project's growth-inducing potential is therefore considered significant if growth generated by the project could result in significant effects in one or more environmental issue areas.

5.1.1 Economic Growth

The 2020 RTP/SCS would include over 100 new transportation improvement projects included that would generate additional employment opportunities for transportation construction, maintenance, and operation. However, similar to the 2016 RTP/SCS additional employment opportunities would be minimal and not subsequently increase the demand for support services and utilities, which could otherwise generate secondary employment opportunities. In addition, the 2020 RTP/SCS contains projects designed to further improve the efficient movement of goods and services for industries that are reliant upon the transportation network.

Although such growth may incrementally increase economic activity in Butte County, significant physical effects beyond those impacts discussed in this SEIR are not expected to result from economic growth generated by the 2020 RTP/SCS. Impacts associated with such growth are discussed in Sections 4.1 through 4.11 of this SEIR.

5.1.2 Employment, Household, and Population Growth

Regional population in Butte County is projected to grow from 229,968 in 2020 to 277,397 by 2040, an increase of approximately 22 percent. Employment within the region is projected to increase from 82,900 jobs to between 88,313 and 96,379 jobs over the same period, an increase of approximately 7 to 16 percent. As mentioned above, proposed projects under the 2020 RTP/SCS are designed and intended to accommodate projected growth up to the year 2040. Projects under the 2020 RTP/SCS would be phased to respond to growth as it occurs under adopted local general plans. As a result, the 2020 RTP/SCS would not directly induce growth beyond that projected by 2040; rather, it is intended to accommodate growth in a way that will help meet objectives described in the SCS component of the 2020 RTP/SCS. Employment, population and household growth would

occur within the Butte County region regardless of whether the 2020 RTP/SCS is implemented. The land use scenario envisioned by the 2020 RTP/SCS is effectively the same as the land use scenario envisioned by the 2016 RTP/SCS. This scenario would emphasize the development of infill within existing urbanized areas, and therefore, may redistribute growth patterns. The location of infill development would generally be on properties that have been identified as vacant or underutilized within applicable local jurisdictions. Infill development would not necessarily result in significant new population growth within these jurisdictions; rather the 2020 RTP/SCS would accommodate anticipated growth and concentrate it within existing urban cores instead of on the periphery of urban areas or within rural or semi-rural areas. Therefore, direct growth-inducing population growth impacts would be less than significant.

5.1.3 Removal of an Impediment to Growth

Similar to the 2016 RTP/SCS, the majority of 2020 RTP/SCS transportation improvements would take place in existing urbanized areas, such as the cities of Chico, Oroville, and the Town of Paradise. The remaining bulk of transportation improvements would occur throughout the unincorporated area and communities of Butte County. Such transportation improvements can be perceived as removing an obstacle to growth by either creating additional traffic capacity (in the case of roadway widening) or improving access to undeveloped areas (in the case of road extensions). New infrastructure may also serve to accelerate or shift planned growth or encourage and intensify unplanned growth. These transportation network improvements would remove obstacles to growth in some areas of the region, which would support additional housing, population and economic growth, and therefore could be considered growth inducing.

However, these improvements are primarily intended to support the transportation needs of the growing population while implementing the land use approach outlined in the SCS. The SCS, similar to the SCS adopted in 2016, is designed to accommodate growth by encouraging development in already urbanized areas and located near key transportation corridors rather than suburban and rural development on greenfields/undeveloped areas of the region. The 2020 RTP/SCS transportation improvement projects are intended and designed to support the land use patterns established in the SCS. Therefore, the 2020 RTP/SCS is consistent with projected and planned growth. Furthermore, all transportation improvement projects and land uses envisioned by the 2020 RTP/SCS are anticipated by the general plans of the applicable local jurisdictions, as all improvements have been coordinated with the applicable local jurisdictions.

5.2 Irreversible Environmental Effects

Section 15126.2(c) of the *CEQA Guidelines* requires a discussion of significant irreversible environmental changes that would occur as a result of a proposed project. As described in Section 2, *Project Description*, the 2020 RTP/SCS modifies the 2016 RTP/SCS by removing completed projects, modifying some projects that continue to be on the list based on new information, and adding over 100 net new minor projects to the list. In addition, the land use scenario envisioned by the 2020 RTP/SCS is similar to that contained in the 2016 RTP/SCS.

Construction of these new and modified projects would have an incremental increase in the use of non-renewable energy sources, potable water and building materials above what was analyzed in the 2016 EIR for the 2016 RTP/SCS. The use and consumption of non-renewable resources would be irreversible.

Long-term irreversible environmental changes are associated with increased asphalt or concrete paving from new and modified transportation projects and related direct and cumulative impacts to aesthetics, biological resources, geology and soils, and hydrology and water quality. These types of environmental changes were evaluated in the 2016 EIR, and the effects of the 2020 RTP/SCS would not be substantially different or more severe than previously identified in the 2016 EIR. Additionally, the mitigation measures prescribed to minimize these effects in the 2016 EIR would be applicable to the 2020 RTP/SCS.

5.3 List of Significant and Unavoidable Impacts

The proposed 2020 RTP/SCS would result in the significant and unavoidable impacts listed below. These impacts are in addition to those identified as significant and unavoidable in the 2016 EIR for the 2016 RTP/SCS.

- **Impact AG-1.** Conversion of Prime Farmland, Unique Farmland, Farmland of Statewide Importance and lands under Williamson Act contract to non-agricultural use
- **Impact CR-1.** Disturbance to historical resources
- **Impact T-2.** Achievement of vehicle miles travelled reductions set forth in the California Air Resources Board 2017 Scoping Plan
- **Impact WF-1.** Risk of loss, injury or death from wildland fire

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6 Alternatives

In accordance with Section 15126.6 of the *CEQA Guidelines*, this SEIR contains a comparative impact assessment of alternatives that would lessen significant impacts of the proposed 2020 RTP/SCS.

Section 15126.6 of *CEQA Guidelines* states:

an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible.

The primary purpose of this section of the SEIR is to provide decision makers and the general public a reasonable number of feasible alternatives that could attain most of the basic objectives of the 2020 RTP/SCS, while avoiding or reducing any of the significant adverse environmental effects of the 2020 RTP/SCS. As required by CEQA, this section also includes a discussion of the “environmentally superior alternative” among those studied.

The objectives for the proposed project are listed in Section 2.3 of *Section 2.0, Project Description*. Included in this analysis are three alternatives, including the CEQA-required “No Project” alternative, that involve changes to the project that may reduce the project-related environmental impacts as identified in this EIR. Alternatives have been developed to provide a reasonable range of options to consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed project.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project Alternative
- Alternative 2: Financially Unconstrained Alternative
- Alternative 3: Transit Investment Plus (+) Alternative

6.1 Methodology

As described in Section 4, *Environmental Impact Analysis*, this SEIR analyzes the same potentially significant impact areas as the certified 2016 EIR prepared for the 2016 RTP/SCS. It also evaluates the 2020 RTP/SCS for potentially new significant impacts not previously identified in the 2016 EIR.

The analysis in this SEIR determined that the 2020 RTP/SCS would result in two new significant and unavoidable impacts not previously identified in the 2016 EIR for the 2016 RTP/SCS.

- Increased VMT in the region, as described in Section 4.4, *Transportation and Circulation*;
- Risk of wildland fire hazards, as described in Section 4.11, *Wildfire*

Additionally, the analysis in this SEIR determined that the 2020 RTP/SCS would have potentially significant impacts to tribal cultural resources that would be reduced to less than significant with implementation of mitigation measures (see Section 4.10, *Tribal Cultural Resources*). Energy impacts

from implementation of projects under the 2020 RTP/SCS were determined to be less than significant. Impacts to energy and tribal cultural resources were not identified in the 2016 EIR.

Each alternative is described and analyzed below to determine whether environmental impacts would be similar to, less than, or greater than those of the 2020 RTP/SCS for each of the impact issue areas analyzed in this SEIR with potentially significant impacts. It should be noted that because the alternatives analysis is focused on the potentially significant impacts specific to the 2020 RTP/SCS, the alternatives to the 2016 RTP/SCS evaluated in the 2016 EIR were not used in this SEIR. However, the analysis below considers whether significant and unavoidable impacts of the 2016 RTP/SCS, as identified in the 2016 EIR, would be reduced or more severe under each of the alternatives evaluated in this SEIR because these impacts would also occur under the 2020 RTP/SCS. Significant and unavoidable impacts identified in the 2016 EIR are associated with impacts to historical resources.

6.2 Alternative 1: No Project Alternative

6.2.1 Description

Section 15126.6 of the *CEQA Guidelines* requires analysis of the No Project Alternative. The No Project Alternative, Alternative 1, is defined as a land use pattern comprised of land use trends according to the 2016 RTP/SCS. It assumes that regional growth trends and land use according to the 2016 RTP/SCS would continue. Under Alternative 1 population in the Plan Area for 2040 would be 319,342, consistent with the findings of the 2016 RTP/SCS, which is approximately 17 higher than the 2020 RTP/SCS population projections for 2040. Transportation projects would be comprised of those that are currently in construction or are funded through the 2016 RTP/SCS updated to reflect current conditions. No new transportation improvement projects would be added to the RTP list and therefore would not occur.

6.2.2 Impact Analysis

a. Agriculture and Forestry

Implementation of Alternative 1 would result in less conversion of farmland to non-agricultural use as a result of fewer overall transportation improvement projects, including roadway extensions and widening, interchanges and bicycle and pedestrian projects that would occur. However, implementation of this alternative and continued land use patterns of the 2016 RTP/SCS would still result in agricultural land conversion as envisioned under the land use scenario in the 2020 RTP/SCS. Therefore, impacts to agricultural resources would be similar, although slightly reduced, and would remain significant and unavoidable. All related mitigation measures referenced in Section 4.1, *Agricultural Resources*, would apply to Alternative 1.

b. Air Quality

Implementation of Alternative would result in less construction related emissions due to fewer transportation improvement projects. Similar to the 2016 RTP/SCS, the overall land use scenario envisioned by the 2020 RTP/SCS is intended to increase residential and commercial land use capacity within existing transit corridors which would shift a greater share of future growth to these corridors, ultimately increasing density, improving circulation and multimodal connections. However, overall population growth and the regional VMT would be greater under this alternative

than the 2020 RTP/SCS. Furthermore, as stated Section 4.2, *Air Quality*, emissions under the No Project alternative would be greater for all criteria pollutants than those produced with implementation of the 2020 RTP/SCS. Thus, even though construction air quality impacts would be reduced under this alternative, increased operational emissions would result in greater air quality emissions when compared to the 2020 RTP/SCS. Overall, air quality would be slightly increased under Alternative 1. All mitigation measures identified in Section 4.2, *Air Quality*, would still be required to reduce or avoid potentially significant impacts under Alternative 1.

c. Biological Resources

Implementation of Alternative 1 would result in less impacts to biological resources as fewer overall transportation projects, including roadway extensions, widening projects and creek crossings would occur. Fewer transportation improvement projects would result in less ground disturbance and fewer impacts to special status plants and animals, critical habitats, and wildlife movement than anticipated if the 2020 RTP/SCS were implemented. However, development in Butte County under this alternative would continue to occur and result in potential impacts to biological resources, as the overall land use scenario envisioned by the 2020 RTP/SCS is similar to proposed in the 2016 RTP/SCS and would therefore have similar impacts to biological resources. While impacts to sensitive plant and animal species, critical habitats and wildlife movement may be reduced under Alternative 1 relative to the 2020 RTP/SCS, impacts would remain significant, but mitigable. All related mitigation measures referenced in Section 4.3, *Biological Resources* would apply to Alternative 1.

d. Cultural Resources

Implementation of Alternative 1 would involve less ground disturbance than would occur under the 2020 RTP/SCS due to the reduced number of transportation improvement projects such as roadway extension and widening, interchanges and bicycle and pedestrian facilities. Therefore, the potential to impact known and unknown cultural resources would be reduced. However, some ground disturbance would still occur from completion of projects that are currently funded under the 2016 RTP/SCS and impacts related to unknown cultural resources would remain significant but mitigable. All related mitigation measures referenced in Section 4.4, *Cultural Resources*, would apply to Alternative 1. Because this alternative would include the same land use scenario as the 2020 RTP/SCS, potential impacts to historic structures would be similar and remain significant and unavoidable. Overall, impacts related to cultural resources would be similar or slightly reduced under this alternative as compared to the 2020 RTP/SCS.

e. Energy

Implementation of Alternative 1 would result in fewer energy impacts during construction activities as fewer transportation improvement projects would be constructed. However, the regional VMT would be greater under this alternative than the 2020 RTP/SCS which would result in greater energy demand. Overall, the No Project Alternative would result in more energy use than the 2020 RTP/SCS due to higher VMT, which would result in increased fuel consumption.

f. Greenhouse Gas Emissions

Implementation of Alternative 1 would result in fewer impacts associated with GHG emissions during construction activities as fewer transportation related projects would be constructed. The regional VMT would be greater under this alternative than the 2020 RTP/SCS, and other

performance measures also show an improvement with the 2020 RTP/SCS in the overall efficiency of the transportation network compared to this alternative. Therefore, the No Project Alternative would have higher GHG emissions than compared with the 2020 RTP/SCS, as shown in Table 4.6-1, of Section 4.6, *Greenhouse Gas Emissions*. Implementation of this alternative would result in an estimated 1,445,108,000 pounds per year of CO₂ emissions as opposed to the 1,237,861,000 pounds per year CO₂ emissions that would result from the 2020 RTP/SCS. As long-term GHG emissions would increase under this alternative, the overall impact of Alternative 1 would be higher as compared to the 2020 RTP/SCS.

g. Noise

From a program perspective, fewer transportation projects would result in less construction activity and short-term noise impacts throughout Butte County. However, construction noise would still occur and impacts would remain significant and mitigable. All related construction noise mitigation measures specified in Section 4.7, *Noise*, would be required under Alternative 1.

Although the number of transportation projects would be reduced under this alternative as compared to the 2020 RTP/SCS, an increase in traffic volumes resulting from regional growth would occur. As Alternative 1 would result in more VMT, more transportation noise would occur under this alternative, resulting in greater noise impacts overall than what would occur under the 2020 RTP/SCS.

h. Population and Housing

Alternative 1 would continue existing land use patterns similar to those envisioned by the 2020 RTP/SCS and while overall population growth would be approximately 17 percent higher under this alternative than the 2020 RTP/SCS, the project does not include new housing developments and would not displace any housing. Therefore, population and housing impacts would be similar to the 2020 RTP/SCS.

i. Transportation

Alternative 1 would not include some of the projects envisioned under the 2020 RTP/SCS, including new roadway extension and widening projects, new intersection projects, new bikeway and pedestrian projects (active transportation), and new transit projects. Many of these projects are intended to reduce automobile trips, and in many cases would serve as mitigation measures to reduce potential impacts associated with planned long-term development. Under Alternative 1, fewer transit projects would be implemented which would result in greater impact to populations dependent on transit services. As a result, impacts to public transit would be greater under this alternative when compared to the proposed project.

Overall, VMT within the region would increase as a result of regional population growth. As discussed in Section 4.9, *Transportation and Circulation*, overall VMT would be approximately 14 percent greater under the No Project Alternative as compared to the 2020 RTP/SCS. However, as compared to baseline (2018) conditions Alternative 1 would result in an approximately 6 percent reduction in total VMT per capita by 2040, which is not enough to support achievement of the 14.3 percent identified by the California Air Resources Board statewide. Therefore, similar to the 2020 RTPS, impacts would remain significant and unavoidable and all mitigation measures proposed in Section 4.9, *Transportation and Circulation*, would continue to apply to Alternative 1.

j. Tribal Cultural Resources

Implementation of Alternative 1 would involve less ground disturbance than would occur under the 2020 RTP/SCS due to the reduced number of transportation improvement projects such as roadway extension and widening, interchanges and bicycle and pedestrian facilities. As such, the potential to disturb tribal cultural resources, including ancestral remains and sacred sites, would be reduced. However, some ground disturbance would still occur from completion of projects that are currently funded under the 2016 RTP/SCS and impacts related to unknown cultural resources would remain significant but mitigable. All related mitigation measures referenced in Section 4.10, *Tribal Cultural Resources*, would apply to Alternative 1. Overall, impacts related to cultural resources would be similar or slightly reduced under this alternative than what could occur as a result of 2020 RTP/SCS.

k. Wildfire

Implementation of Alternative 1 would result in fewer wildfire impacts during construction activities as fewer transportation related projects would be constructed. Alternative 1 would also result in fewer projects and would thus decrease the potential for people to be exposed to wildfire risks, as compared to the 2020 RTP/SCS. Overall, wildfire impacts would be slightly reduced under this alternative than what could occur as a result of the 2020 RTP/SCS. All related mitigation measures reference in Section 4.11, *Wildfire*, would apply to Alternative 1 and impacts would remain significant and unavoidable.

6.3 Alternative 2: Financially Unconstrained

6.3.1 Description

The Financially Unconstrained Alternative, Alternative 2, includes the SCS and all projects identified in the 2020 project list, including those classified as financially “unconstrained”, without regard to whether or not they can be funded. Transportation benefits under Alternative 2 relative to the 2020 RTP/SCS would be greater because of the increased volume of both roadway improvement and transit projects.

6.3.2 Impact Analysis

a. Agriculture and Forestry

Implementation of Alternative 2 would result in more conversion of farmland to non-agricultural use as a result of more overall transportation improvement projects, including roadway extensions and widening, interchanges and bicycle and pedestrian projects that would occur as compared to the 2020 RTP/SCS. Therefore, impacts to agricultural resources would be greater under Alternative 2 than the 2020 RTP/SCS and would remain significant and unavoidable. All related mitigation measures referenced in Section 4.1, *Agricultural Resources*, would apply to Alternative 2.

b. Air Quality

Implementation of Alternative 2 would result in greater short-term construction related air quality due to additional transportation improvement projects as part of the 2020 RTP/SCS. Accordingly, air pollutant emissions (including diesel particulates from construction equipment) would be greater under this alternative when compared to the 2020 RTP/SCS. However, even with implementation of additional transit improvement and active transportation projects under this alternative, VMT

would increase relative to the 2020 RTP/SCS. Therefore, short-term construction related emissions would be greater, and regional air emissions would be slightly greater than the 2020 RTP/SCS since the overall VMT for this alternative would be greater than the 2020 RTP/SCS. Impacts would remain less than significant with mitigation and all mitigation measures identified in Section 4.2 *Air Quality* would still apply to Alternative 2.

c. Biological Resources

Implementation of Alternative 2 would result in greater impacts to biological resources as more overall transportation projects, including roadway extensions, widening projects and creek crossings would occur under Alternative 2. Alternative 2 would result in more ground disturbance and greater impacts to special status plants and animals, critical habitats, and wildlife movement associated with transportation improvement projects than anticipated in the 2020 RTP/SCS. Impacts would remain significant but mitigable and all related mitigation measures presented in Section 4.3, *Biological Resources*, would apply to Alternative 2.

d. Cultural Resources

Implementation of Alternative 2 would involve more ground disturbance than would occur under the 2020 RTP/SCS due to the increased number of transportation improvement projects such as roadway extension and widening, interchanges and bicycle and pedestrian facilities. Therefore, the potential to impact known and unknown cultural resources would be increased as compared to the 2020 RTP/SCS. Although impacts related to known and unknown cultural resources would increase they would remain significant but mitigable and all related mitigation measures referenced in Section 4.4, *Cultural Resources*, would apply to Alternative 2. Because this alternative would include more transportation projects than the proposed 2020 RTP/SCS, potential impacts to historic structures would also be increased and thus impacts related to historic resources would remain significant and unavoidable. Overall, impacts related to cultural resources would be greater under this alternative than what could occur as a result of 2020 RTP/SCS, but would remain less than significant.

e. Energy

Implementation of this alternative would result in greater energy impacts during construction activities as more transportation improvement projects would be constructed as part of Alternative 2. In addition, the regional VMT would be greater under this alternative. As a result, this alternative would result in greater energy use compared with the 2020 RTP/SCS due to increased fuel consumption. However, impacts would remain less than significant.

f. Greenhouse Gas Emissions

Alternative 2 would result in greater impacts associated with GHG emissions during construction activities as compared to the 2020 RTP/SCS because more projects would be constructed under this alternative. In comparison to the 2020 RTP/SCS, VMT under the Alternative 2 would be greater by approximately 24,098 VMT (Appendix D) and thus impacts associated with long term GHG emissions would be expected to be slightly greater relative to the 2020 RTP/SCS. Similar to the 2020 RTP/SCS all mitigation measures included in Section 4.6, *Greenhouse Gas Emissions/Climate Change*, would be applicable under this alternative and impacts would remain less than significant with mitigation.

g. Noise

From a program perspective, more transportation projects under this alternative would result in increased construction activity. This would increase short-term noise impacts throughout Butte County. However, impacts would remain significant and mitigable with implementation of construction noise mitigation measures specified in Section 4.7, *Noise*.

The number of transportation projects would be increased under this alternative as compared to the 2020 RTP/SCS, and VMT would be increased. Higher VMT would result in increased traffic noise as compared to the 2020 RTP/SCS. Overall, noise impacts would be greater than the 2020 RTP/SCS and remain less than significant with mitigation.

h. Population and Housing

Alternative 2 would continue existing land use patterns similar to those envisioned by the 2020 RTP/SCS. Overall population growth would be the same as the 2020 RTP/SCS, as the project does not include new housing developments, and Alternative 2 would have the same land use scenario as the 2020 RTP/SCS. Therefore, population and housing impacts for Alternative 2 would be the same as the 2020 RTP/SCS.

i. Transportation

This alternative would include more transportation projects than the 2020 RTP/SCS; however, it would result in higher VMT than the 2020 RTP/SCS by approximately 24,098 VMT (Appendix D). This alternative would result in enhanced mobility choices (increased transit availability and enhanced pedestrian and bicycling facilities) relative to the 2020 RTP/SCS. This alternative would also further enhance goods movement as a result of the increase in transportation projects countywide. However, as compared to baseline (2018) conditions Alternative 2 would result in an approximately 3 percent reduction in total VMT per capita by 2040, which is not enough to support achievement of the 14.3 percent identified by the California Air Resources Board statewide. Therefore, similar to the 2020 RTP/SCS, impacts would remain significant and unavoidable and all mitigation measures proposed in Section 4.9, *Transportation and Circulation*, would continue to apply to Alternative 2. .

j. Tribal Cultural Resources

Implementation of Alternative 2 would involve more ground disturbance than would occur under the 2020 RTP/SCS due to the increased number of transportation improvement projects such as roadway extension and widening, interchanges and bicycle and pedestrian facilities. As such, the potential to disturb tribal cultural resources, including ancestral remains and sacred sites, would be increased under this alternative as compared to the proposed 2020 RTP/SCS. Impacts related to unknown tribal cultural resources would remain significant but mitigable and all related mitigation measures referenced in Section 4.10, *Tribal Cultural Resources*, would apply to Alternative 2. Overall, impacts related to tribal cultural resources would be greater under this alternative than what could occur as a result of 2020 RTP/SCS.

k. Wildfire

Implementation of Alternative 2 would result in more wildfire impacts during construction activities, as more transportation related projects would be constructed. All related mitigation measures reference in Section 4.11, *Wildfire*, would apply to Alternative 2. Operationally, more projects would result in increased wildfire impacts because the number of individuals exposed to wildfire risk would

increase. Wildfire impacts would be slightly greater under this alternative and would be significant and unavoidable, similar to the 2020 RTP/SCS.

6.4 Alternative 3: Transit Investment Plus (+)

6.4.1 Description

The Transit Investment Plus (+) Alternative would focus investment into development of public transit systems and alternative transportation modes, emphasizing bus, pedestrian, and bicycle modes of transportation. Secondly, this alternative would invest in measures such as solar panels, a plug-in efficiency (PEV) vehicle fleet, and natural gas and electric buses to further reduce project environmental effects through energy efficiency. Thirdly, this alternative would result in changes to price metrics such as fuel and transit pricing. Under this scenario all transportation improvement projects as proposed under the 2020 RTP/SCS would remain (as all of the projects are constrained or funded), however in addition there would be an increased amount of public transit, alternative transportation, and energy efficient transportation projects implemented. An increased amount of transit projects under this alternative would result in an increased amount of associated development of those facilities relative to the 2020 RTP/SCS but a reduction of VMT in the region.

6.4.2 Impact Analysis

a. Agriculture and Forestry

Implementation of Alternative 3 would result in a greater impact to agricultural resources as an increased amount of transit-oriented, energy efficiency, and unconstrained projects would be constructed relative to the 2020 RTP/SCS. Additional projects under Alternative 2 would result in greater potential conversion of prime farmland, unique farmland, and/or farmland of statewide significance to non-agricultural use and potential conflicts with Williamson Contract lands when compared to the 2020 RTP/SCS. Impacts to agricultural resources would be increased under this alternative relative to the 2020 RTP/SCS, and would remain significant and unavoidable. All related mitigation measures reference in Section 4.1, *Agricultural Resources*, would apply to Alternative 3.

b. Air Quality

Implementation of Alternative 3 may result in additional short-term construction-related air quality impacts as compared to the proposed 2020 RTP/SCS with the increase in transit related improvement projects in addition to the other funded transportation improvement projects. Increased investment in transit-oriented, energy efficiency, and unconstrained projects under this alternative relative to the 2020 RTP/SCS would promote an increased number of people to utilize public transit and alternative means of transportation. The implementation of energy efficient vehicles and technologies such as natural gas and electric transit buses, would further reduce emissions as compared to the transportation-oriented projects within the 2020 RTP/SCS.

This alternative would reduce VMT and vehicle emissions as compared to the 2020 RTP/SCS because Alternative 3 would include the same transportation projects but would invest in additional transit projects that would further reduce VMT as additional modes of transportation are available and would invest in cleaner energy vehicles and solar to continue to reduce emissions. Due to this reduction in VMT and implementation of clean energy vehicles, the overall potential air quality impacts would be less than the 2020 RTP/SCS. Overall toxic air emissions (diesel particulates) would

be expected to be less under this alternative as would emissions of PM₁₀, ROG, and NO_x. Air quality impacts would be less under this alternative than compared to the 2020 RTP/SCS. However, all mitigation measures identified in Section 4.2 *Air Quality* would be required for Alternative 3 and impacts would be less than significant, similar to the 2020 RTP/SCS.

c. Biological Resources

Implementation of Alternative 3 would result in greater impact to biological resources as more ground disturbance would occur due to the increased number of transit, energy efficiency, and unconstrained projects in addition to those projects included in the 2020 RTP/SCS. This would result in greater impacts to special status plants and animals, critical habitats, and wildlife movement associated with transportation improvement projects than anticipated if the 2020 RTP/SCS were implemented. Impacts would remain significant, but mitigable and all related mitigation measures referenced in Section 4.3, *Biological Resources* would apply to Alternative 3.

d. Cultural Resources

Implementation of Alternative 3 would involve more ground disturbance than would occur under the 2020 RTP/SCS due to the increased number of transit, energy efficiency, and unconstrained projects. Therefore, the potential to impact unknown cultural resources would be increased. Impacts related to unknown cultural resources would remain significant but mitigable and all related mitigation measures referenced in Section 4.4, *Cultural Resources*, would apply. This alternative would include more transportation projects with the investment in additional projects than the proposed 2020 RTP/SCS, thus potential impacts to historic structures may be increased and impacts to historic resources would remain significant and unavoidable. Overall, impacts related to cultural resources would be greater under this alternative than what would occur as a result of the 2020 RTP/SCS.

e. Energy

Implementation of Alternative 3 would result in greater energy impacts during construction activities as more transit-oriented, energy-efficiency, and unconstrained transportation related projects would be constructed. However, this alternative would result in lower regional VMT due to increased transit ridership when compared to the 2020 RTP/SCS, as well as the increased energy efficiency as use of PEV, solar, and electric and natural gas buses would further reduce emissions associated with the proposed project. As a result, this alternative would result in less energy use compared with the 2020 RTP/SCS and impacts would remain less than significant.

f. Greenhouse Gas Emissions

Overall VMT and project related operational emissions under Alternative 3 would be anticipated to be less than the 2020 RTP/SCS due to the increased investment in transit-oriented, energy-efficiency, and unconstrained projects and clean energy vehicles. Increased transit oriented projects, as compared to the 2020 RTP/SCS, would promote utilization of public transit and alternative means of transportation beyond that envisioned in the 2020 RTP/SCS. Thus, GHG emissions are anticipated to be lower than the 2020 RTP/SCS under this alternative.

Construction-related emissions of GHGs under this alternative would be slightly greater than the 2020 RTP/SCS because the increased amount of transit-oriented, energy-efficiency, and unconstrained projects that would be constructed. Overall, the reduction in VMT and implemented energy efficiency under this alternative would reduce impacts associated with GHG emissions;

however, all mitigation measures included in Section 4.6, *Greenhouse Gas Emissions/Climate Change*, would remain applicable to Alternative 3. Impacts would be less than significant, similar to the 2020 RTP/SCS.

g. Noise

From a program perspective, more transit-oriented, energy-efficiency, and unconstrained projects under this alternative would result in increased construction activity. This would increase short-term noise impacts throughout Butte County. However, impacts would remain be significant and mitigable with implementation of construction noise mitigation measures specified in Section 4.7, *Noise*. Because overall VMT would be reduced under Alternative 3, the potential for increased traffic generated noise overall, while site specific, would be less than the 2020 RTP/SCS. Overall, noise impacts would be similar to or slightly less than the 2020 RTP/SCS.

h. Population and Housing

Alternative 3 would continue existing land use patterns similar to those envisioned by the 2020 RTP/SCS. Overall population growth would be the same as the 2020 RTP/SCS, as the project does not include new housing developments. Therefore, population and housing impacts for Alternative 3 would be the same as the 2020 RTP/SCS and less than significant.

i. Transportation

Alternative 3 would focus more investments on transit improvements relative to the 2020 RTP/SCS, and would result in pricing that would result in changes to VMT (primarily reduction in VMT) in the Plan Area. However, the changes in pricing would result in decreased emissions and VMT because personal vehicle use is anticipated to decrease with increased fuel pricing as transit ridership increases. It is noted that the increases in transit improvements under this alternative would not result in a proportionate increase in ridership, particularly in the smaller communities and more rural areas of Butte County.

As a result, overall VMT would be slightly less than the 2020 RTP/SCS as higher population densities in urban areas would have access to various modes of transit that would be funded under this alternative. Under this alternative, transit facilities, pedestrian and bicycle facilities would be likely enhanced further than that proposed by the 2020 RTP/SCS. In addition, because all other constrained transportation projects would remain the same under this alternative, goods movements would also be enhanced as congestion on highways and rural roads would likely be reduced under this alternative as more investment in transit-oriented, energy-efficiency, and unconstrained would likely result in fewer vehicle trips countywide. Transportation and circulation impacts under this alternative would be less than expected for the 2020 RTP/SCS, however impacts would remain significant and unavoidable as this alternative would not meet SB 375 VMT reduction requirements of 14.3 percent.

j. Tribal Cultural Resources

Implementation of Alternative 3 would involve more ground disturbance than would occur under the 2020 RTP/SCS due to the increased number of projects. As such, the potential to disturb tribal cultural resources, including ancestral remains and sacred sites, would be increased under this alternative than the proposed 2020 RTP/SCS. Impacts related to unknown cultural resources would remain significant but mitigable and all related mitigation measures referenced in Section 4.10,

Tribal Cultural Resources, would apply. Overall, impacts related to cultural resources would be greater under this alternative than what could occur as a result of 2020 RTP/SCS.

k. Wildfire

Implementation of Alternative 3 would result in more wildfire impact during construction activities, as more transportation related projects would be constructed. All related mitigation measures reference in Section 4.11, *Wildfire*, would apply to Alternative 3. Operationally, more projects would result increased wildfire impacts as more projects would expose additional individuals to risks from wildfire. Wildfire impacts would be slightly greater under this alternative than what could occur as a result of the 2020 RTP/SCS and would be significant and unavoidable, similar to the 2020 RTP/SCS.

6.5 Environmentally Superior Alternative

The No Project Alternative (Alternative 1) would not be considered environmentally superior overall. Although it would entail the fewest projects and therefore result in the fewest construction-related impacts and impacts associated with ground disturbance, many of the transportation improvements envisioned in the 2020 RTP/SCS would not occur. As a consequence, total VMT be greater with this alternative as compared to the 2020 RTP/SCS, even though VMT per capita would be lower than the 2020 RTP/SCS with the higher population for Alternative 1. In addition, air quality impacts would be greater than the 2020 RTP/SCS because VMT would be greater under the No Project Alternative. Although GHG per capita emissions would be lower than the 2020 RTP/SCS due to the higher population for Alternative 1. While some transportation benefits may occur by implementing programmed improvements, relative to the 2016 RTP/SCS (those that are the same as the ones on the 2016 RTP list), Alternative 1 would not perform as well as the 2020 RTP/SCS. Specifically, this alternative would result in higher VMT as a fewer percentage of trips by transit, bicycle or walking would occur in the region compared to the projections of the 2020 RTP/SCS.

Under Alternative 2, the Financially Unconstrained, land use patterns would encourage development consistent with the proposed 2020 RTP/SCS, but more transportation improvement projects would be constructed. Alternative 2 would not be considered environmentally superior to the 2020 RTP/SCS primarily because impacts to environmental resource areas such as, agricultural resources, critical habitats, and cultural resources would be higher due to the increased amount of transportation improvement projects. Additionally, air quality, greenhouse gas, and traffic impacts would be greater than the proposed 2020 RTP/SCS due to higher VMT associated with this alternative.

Alternative 3, the Transit Investment Plus (+) Alternative, performs similar or better than the proposed 2020 RTP/SCS and is considered to be environmentally superior to the proposed project. This alternative would result in an increased potential for agricultural lands to be converted for other uses and the amount of habitat and cultural resources impacted. However, overall VMT would be expected to be less because of a greater use of active transportation modes (biking and pedestrian) and greater use of public transit and active transportation modes. Transportation impacts would remain significant and unavoidable under Alternative 3 because CARB requirements would not be met. Furthermore, the increased transit opportunities and demand for those services for Butte County residents would result in less GHG and transportation impacts than the 2020 RTP/SCS and would likely result in reduced VMT. And use of PEV, solar, and electric and natural gas

buses would further reduce emissions associated with the proposed project. This alternative would result in similar impacts to noise.

Based on the information presented in Table 6-1, the Transit Investment Plus (+) Alternative (Alternative 3) is determined to be the environmentally superior alternative when considering overall environmental impacts relative to the performance metrics and attainment of SB 375 requirements, even though impacts under Alternative 1 would involve less ground disturbing activities. However, superior performance of Alternative 3 with respect to certain metrics is largely attributable to individual behavior parameters that are beyond the control of BCAG. For example, under this alternative, traffic, air quality and GHG emission benefits from the expansion and improvement of public and active transportation facilities as well as through energy efficiency investments would rely upon individuals throughout Butte County utilizing these amenities. Therefore, implementation of this alternative and achievement of performance metrics such as lower VMT may not be feasible.

Table 6-1 Impact Comparison of Alternatives

Issue	Proposed Project Impact Classification	Alternative 1: No Project/ Alternative	Alternative 2: Financially Unconstrained	Alternative 3: Transit Investment Plus Energy Efficiency and Price Change
Agriculture and Forestry	Significant and Unavoidable	+	-	-
Air Quality	Less than Significant with Mitigation Incorporated	-	-	+
Biological Resources	Less than Significant with Mitigation Incorporated	+	-	-
Cultural Resources	Significant and Unavoidable	+	-	-
Energy	Less than Significant	-	-	+
Greenhouse Gas Emissions	Less than Significant with Mitigation Incorporated	-	-	+
Noise	Less than Significant with Mitigation Incorporated	+	-	+
Population and Housing	Less than Significant	-	=	=
Transportation and Circulation	Significant and Unavoidable	+	-	+

Issue	Proposed Project Impact Classification	Alternative 1: No Project/ Alternative	Alternative 2: Financially Unconstrained	Alternative 3: Transit Investment Plus Energy Efficiency and Price Change
Tribal Cultural Resources	Less than Significant with Mitigation Incorporated	+	-	-
Wildfire	Significant and Unavoidable	+	-	-
+ Superior to the proposed project - Inferior to the proposed project = Substantially similar to the proposed project				

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