

Chapter 7—Cultural, Paleontological, and Tribal Cultural Resources

7.1 Introduction

This chapter describes the existing conditions (environmental and regulatory) and assesses the potential cultural, paleontological, and tribal resources impacts of the 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (proposed MTP/SCS). Where necessary and feasible, mitigation measures are identified to reduce these impacts.

The information presented in this chapter is based on review of existing and available information and is regional in scope. Data, analysis, and findings provided in this chapter were considered and prepared at a programmatic level. For consistency with the 2016 MTP/SCS EIR, paleontological resources are addressed in this chapter even though these resources are grouped with geology and soils in Appendix G of the CEQA Guidelines (SACOG 2016). Impacts to unique geologic features are addressed in Chapter 9 – Geology, Soils, Seismicity, and Mineral Resources.

Cultural resources include archaeological sites or districts of prehistoric or historic origin, built environment resources older than 50 years (e.g., historic buildings, structures, features, objects, districts, and landscapes), and traditional or ethnographic resources, including tribal cultural resources, which are a separate category of cultural resources under CEQA. Paleontological resources include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains that are more than 5,000 years old and occur mainly in Pleistocene or older sedimentary rock units.

In response to the Notice of Preparation (NOP), SACOG received comments related to cultural and tribal cultural resources from the Native American Heritage Commission (NAHC) and United Auburn Indian Community of the Auburn Rancheria. The commenters expressed that the Draft EIR should consider the following:

- early consultation with traditionally and culturally affiliated California Native American tribes;
- compliance with Assembly Bill (AB) 52 (Statutes of 2014);
- compliance with Senate Bill (SB) 18 (Statutes of 2004);
- NAHC recommendation for cultural resource assessments; and
- analysis of Tribal Cultural Resources (including avoidance measures, mitigation measures, post-review discovery mitigation measures, worker awareness training, and avoidance).

The CEQA Guidelines note that comments received during the NOP scoping process can be helpful in “identifying the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in an EIR and in eliminating from detailed study issues found not to be important.” (CEQA Guidelines Section 15083.) Neither the CEQA Guidelines nor Statutes require a lead agency to respond directly to comments received in response to the NOP, but they do require they be considered. Consistent with these requirements, these comments have been carefully

reviewed and considered by SACOG and are reflected in the analysis of impacts in this chapter. Appendix PD-1 includes all NOP comments received.

7.2 Environmental Setting

The following summarizes the region’s geology, prehistoric and historic setting, known cultural resources, and paleontological sensitivity.

7.2.1 Regional Geology

The plan area of the proposed MTP/SCS is located in a broad area that extends across three of California’s 11 geomorphic provinces, from the Coast Ranges on the west, across the Great Valley, to the Sierra Nevada on the east.

The western edge of the plan area of the proposed MTP/SCS is in the Coast Ranges geomorphic province. This province is characterized by northwest-trending mountain ranges and valleys formed over the past 10 million years by active uplift related to complex tectonics of the San Andreas fault and plate boundary system (Atwater and Stock 1998; Norris and Webb 1990). At the general latitude of the plan area of the proposed MTP/SCS, the eastern Coast Ranges consist of a central core of Mesozoic units, including the diverse units of the Franciscan complex, flanked on the west by extensive exposures of Miocene volcanic rocks and on the east by an upward younging sequence of marine and terrestrial sedimentary units that ranges in age from Cretaceous to Neogene (refer to geologic timescale in Table 7-1). The area’s larger drainages preserve several generations of alluvial fan and stream deposits ranging in age from Pleistocene to Holocene (Graymer et al. 2002; Wagner and Bortugno 1982).

**Table 7-1
Divisions of Geologic Time**

Era	Period	Time in Millions of Years Ago (approximately)	Epoch
Cenozoic	Quaternary	< 0.01	Holocene
		2.6	Pleistocene
	Tertiary	5.3	Pliocene
		23	Miocene
		34	Oligocene
		56	Eocene
		65	Paleocene
Mesozoic	Cretaceous	145	
	Jurassic	200	
	Triassic	251	
Paleozoic	Permian	299	
	Carboniferous	359	
	Devonian	416	
	Silurian	444	
	Ordovician	488	
	Cambrian	542	
Precambrian		2,500	

Source: USGS Geologic Names Committee 2010

The central portion of the plan area of the proposed MTP/SCS is in the Sacramento Valley, which forms the northern portion of California's Great Valley geomorphic province (Norris and Webb 1990). The Great Valley is a nearly flat alluvial plain that lies between the Sierra Nevada on the east, the Coast Ranges on the west, the Tehachapi Mountains on the south, and the Klamath Mountains on the north. Subdivided into the Sacramento Valley to the north and the San Joaquin Valley to the south, the Great Valley has an average width of about 50 miles and is about 400 miles long. The Sacramento Valley is bounded by the Stockton Arch to the south (Bartow 1991; Norris and Webb 1990).

The Great Valley is floored by a thick sequence of alternating marine and terrestrial sedimentary deposits that range in age from Jurassic through Holocene. The base of the sequence likely rests on Mesozoic crystalline rock associated with the Sierra Nevada in the east and central portions of the valley and on Franciscan metasediments and mélangé associated with the Coast Ranges in the west. Mesozoic sedimentary rocks in the subsurface include marine deposition. These rocks are overlain by Tertiary strata reflecting marine, estuarine, and terrestrial conditions, which are in turn overlain by Quaternary fluvial and alluvial strata that record uplift and erosion of the Sierra Nevada and Coast Ranges to approximately their present shape (Norris and Webb 1990). Breaking the monotony of this long, flat valley is the Sutter Buttes, a volcano that intruded through the Great Valley sediments approximately 1.56 to 0.90 million years ago, creating the buttes and a ring of exposed Cretaceous and Tertiary sediments around the buttes (Hausback 1991).

The Sierra Nevada geomorphic province is a tilted fault block nearly 400 miles long, averaging 50 to 80 miles wide. The eastern face of this block is steep and marked with multiple, rugged scarps. In contrast, the western face is a gentle slope (about 2 degrees) that disappears under the sediments of the Great Valley (California Geological Survey 2002). The Sierra Nevada was formed by a series of intrusion, uplift, and erosional/depositional events. Plutonic rocks of the Jurassic to Cretaceous Sierran batholith occur throughout the province. The Western Metamorphic Belt is a complex collage of various lithologic units formed at a collisional plate boundary during the late Jurassic to early Cretaceous Nevadan Orogeny. The geologic units that make up the belt are marine metavolcanics, metasediments, and oceanic crustal rock of Ordovician to Jurassic age. The metamorphic bedrock contains gold-bearing veins in the northwest trending Mother Lode located along the western slope of the Sierra Nevada between the Feather and Tuolumne river drainages. Along the western edge of the northern Sierra Nevada, marine sediments of Cretaceous age are present, including fossiliferous sandstones and shales, overlay Sierran basement rocks. In a broken band along the lower foothills, the Ione Formation records Eocene marine sedimentation. This unit is known for the economic value of its high-quality clays and sands. Quaternary sedimentary rocks include alluvium, colluvium, landslide deposits, stream and river terrace deposits, lake deposits, and glacial deposits. The glacial deposits in the higher Sierra and the adjacent Basin and Range province are the oldest of the Quaternary deposits (Norris and Webb 1990.)

7.2.2 Prehistory

The cultural-historical framework that provides the foundation for the entire prehistoric record of the plan area of the proposed MTP/SCS in the Sacramento Valley, adjacent Coast Ranges and Sierran foothills, and Sierra Nevada mountains in El Dorado, Placer and Yuba counties is divided into three broad temporal periods that each reflect similar cultural characteristics: Paleo-Indian, Archaic, and Late Prehistoric. The Archaic is further divided into the Lower, Middle, and Upper Archaic based on radiocarbon dates, although the timing varies regionally for each period. This understanding of the prehistory of the plan area of the proposed MTP/SCS is based on

archaeological research conducted by scholars from the 1930s onward and on well-regarded syntheses of California archaeology and projectile point types (Justice 2002; Moratto 1984; Rondeau et al. 2007), Central Valley archaeology (Fredrickson 1973, 1974, and 1994; Rosenthal et al. 2007), and north-central Sierran region archaeology (Elston et al. 1977 and 1994; Jackson et al. 1994; Rosenthal 2002).

The earliest accepted archaeological evidence of human occupation during the Paleo-Indian Period (11,550–8550 cal [calibrated] B.C.; calibration is used to convert the laboratory determination of carbon-dated materials to calendar years) is relatively sparse and scattered throughout the state. Although Fluted Clovis-like projectile points associated with the Paleo-Indian Period have been found in the Coast Ranges, the Central Valley, and the Sierra Nevada, none have been confirmed in the plan area of the proposed MTP/SCS. The subsequent Lower Archaic Period (8550–5550 cal B.C.) is represented mainly by isolated stemmed projectile points or chipped stone crescents, with only a few archaeological sites dating to this period known from the foothills and the southern Central Valley. Similarly, few projectile points have been identified on the western slope of the north-central Sierran region that date to the Lower Archaic Period. Little evidence exists in the Central Valley prior to the Middle Archaic Period (5550–550 cal B.C.) due mainly to periodic episodes of alluvial fan and floodplain deposition during the end of the Pleistocene (approximately 9050 cal B.C.) and at the beginning of the early Middle Holocene (approximately 5550 cal B.C.) that either destroyed or buried Paleo-Indian and Lower Archaic Period archaeological sites (Rondeau et al. 2007; Rosenthal 2002; Rosenthal and McGuire 2004; Rosenthal et al. 2007).

Archaeological sites dating to the Middle Archaic Period (5550–550 cal B.C.) are relatively scarce on the valley floor, but more common in the foothills, particularly in buried contexts between circa 4050 and 2050 cal B.C. Middle Archaic sites from the later portion of the period, less than 4,500 years ago, are more common in the Central Valley and Sierra Nevada mountains. The archaeological assemblages indicate populations were increasingly sedentary, as shown by refined and specialized tool assemblages and features, evidence of basketry, a wide range of non-utilitarian artifacts, and objects obtained through an established coastal and trans-Sierran trade network. These groups consumed a variety of animals, plants, and fish and followed a seasonal foraging strategy that generally entailed movements between the uplands in the spring and summer and lower elevations in the fall and winter (Elston et al. 1977 and 1994; Fredrickson 1973, 1974, and 1994; Jackson et al. 1994; Moratto 1984; Rosenthal et al. 2007).

After 2,700 years, during the Upper Archaic Period (550 cal B.C.–cal A.D. 1100), early human access to more specialized technology resulted in innovations with new types of shell beads, bone tools, ceremonial blades, and charmstones. This period is better represented and understood than the previous time periods. Regional variation in subsistence practices focused on seasonally available resources that were harvested and processed in bulk (e.g., acorns, salmon, shellfish, rabbits, and deer). The archaeological record in the Central Valley reflects a heavy reliance on acorns. In the lower Sacramento Valley and Delta region, large mounded villages developed that included accumulations of habitation debris and features (e.g., hearths, rock-lined ovens, house floors, and burials). It also appears that valley people periodically colonized riparian and other well-watered foothill habitats. Additionally, the distribution of obsidian and coastal shell beads and ornaments, as well as projectile points diagnostic of high Sierran manufacture that have been found along the American River corridor in Foresthill, Auburn and Rocklin in Placer County and in Hawver Cave in El Dorado County, indicate exchange of commodities continued to be widespread (Elston et al.

1977 and 1994; Fredrickson 1973, 1974, and 1994; Hull 2007; Jackson et al. 1994; Justice 2002; McGuire 2007; Moratto 1984; Rosenthal et al. 2007).

The diversity and number of artifacts and the number of archaeological sites increased in the plan area of the proposed MTP/SCS after 1,000 years ago during the Late Prehistoric Period (cal A.D. 1100 to Historic Contact). An increase in population and sedentism of the population led to the development of social stratification, with an elaborate ceremonial and social organization. Large villages and smaller satellite communities developed along the major tributaries in the valley and foothills. At some valley and foothills sites, the archaeological deposits preserved house floors or other structural remains. The occurrence of flanged tubular pipes and baked clay effigies representing humans and animals are examples of items associated with ceremonials and rituals. The Late Prehistoric Period was also shaped by a number of cultural innovations (e.g., the bow and arrow, bone fish hooks, and harpoons). In addition, in some parts of the lower Sacramento Valley, archaeological assemblages from this period include a local form of pottery known as Cosumnes Brownware. The extensive exchange networks present during this period were facilitated by the use of clamshell disk beads as a form of currency. The cultural patterns typical of the Late Prehistoric Period also begin to reflect the cultural traditions known from historic period Native American groups (Elston et al. 1977 and 1994; Fredrickson 1973, 1974, and 1994; Jackson et al. 1994; Moratto 1984; Rosenthal et al. 2007).

7.2.3 Ethnography

Three indigenous California groups historically inhabited the plan area of the proposed MTP/SCS: Patwin, Nisenan (also referred to as Southern Maidu), and Plains Miwok (also Mi-wuk). The language families or dialects spoken by each group are regarded as part of a larger Penutian linguistic stock (Golla 2007). Like other groups throughout the Central Valley and foothills, the acorn was a plant staple for the three groups. These mainly sedentary, complex hunter-gatherer groups also relied on a wide range of abundant natural resources available in their territories, which they hunted, fished, or collected using a variety of tools, implements, and enclosures. Material culture also included a variety of ornamental and ceremonial items, and networks of foot trails connected groups to hunting or plant gathering areas, villages, ceremonial places, and distant trade networks.

The traditional culture and lifeways of the three groups were disrupted beginning in the early 1800s. As part of Spanish settlement and missionization, Plains Miwok were transported to Mission San José and Patwin were brought to the San Francisco, San José, and Sonoma missions (Johnson 1978; Levy 1978). Although Spanish explorers entered Nisenan territory as early as 1808, there is no record of the forced movement of Nisenan to the missions (Wilson and Towne 1978). During the Mexican Period, native peoples were affected by land grant settlements and decimated by foreign disease epidemics that swept through the densely populated Central Valley in the 1830s. The discovery of gold in 1848 followed by a vast influx of immigrants had a devastating impact on the lives of indigenous Californians in the Central Valley and all along the Sierra Nevada foothills. The mass introduction and concentration of diseases, the loss of land and territory (including traditional hunting and gathering locales), violence, malnutrition, and starvation accompanied the tens of thousands of gold seekers.

PATWIN

The historic territory occupied by the Patwin in the plan area of the proposed MTP/SCS included what is today Yolo County and the portion of Sutter County west of the Sutter Buttes. *Patwin* is the local Native American word for “people.” Their territory extended from Princeton in Colusa County south to Suisun Bay, and from the Sacramento River west across the eastern slope of the Coast Ranges. The Patwin economy was based principally on the utilization of natural resources from the riverine corridor, wetlands, and grasslands of the lower Sacramento Valley, and from the open woodlands on the eastern foothills of the Coast Ranges. Villages were generally established in the river valleys, particularly Bear, Capay, Cortina, Long, and Napa valleys (Johnson 1978; Kroeber 1925 and 1932).

NISENAN

Within the plan area of the proposed MTP/SCS, the historic territory occupied by the Nisenan, or Southern Maidu, included what is today El Dorado, Placer, and Yuba counties, eastern Sutter County, and the northern half of Sacramento County. Their territory extended from the North Fork Yuba River south to the Cosumnes River, and east from the Sutter Buttes to the crest of the Sierra Nevada Range. According to Maidu legend, the Sutter Buttes, known as *Histum Yani* or Spirit Mountain, are where the spirits of their people rest before journeying to the afterlife. *Nisena-n* (“from among us”) was used as a self designation by those inhabiting the Yuba and American river drainages. Settlement locations for groups of Valley Nisenan and neighboring Hill Nisenan depended primarily on elevation, exposure, and proximity to water and other resources. Permanent villages were usually located on low rises along major watercourses. Village size among the Hill Nisenan was smaller than among valley groups. The Nisenan economy was based on the seasonal bounty of flora and fauna provided by the rich valley and foothills environment (DPR 2014; Kroeber 1925 and 1929; Wilson and Towne 1978).

PLAINS MIWOK

The historic territory occupied by the Plains Miwok (also Mi-wuk) in the plan area of the proposed MTP/SCS included the southern half of Sacramento County and southern third of El Dorado County. Prior to Euro-American contact, Plains Miwok territory in the Central Valley included land from north of the Cosumnes River to south of the lower Mokelumne River, and the Sacramento River from Rio Vista to Freeport. The Northern Sierra Miwok, Central Sierra Miwok, and Southern Sierra Miwok inhabited the foothills and mountains to the east. *Miwok* is the name used by the Central Sierra Miwok, meaning “people.” Similar to neighboring groups, Plains Miwok built their dwellings on high ground, with main villages concentrated along the major waterways, and depended on gathering acorns and other plant foods, hunting, and fishing for subsistence (Kroeber 1925; Levy 1978).

7.2.4 History

EARLY EXPLORATION AND SETTLEMENT

Spanish Period (1769–1822)

The Spanish were the earliest European explorers to enter and claim what would become the state of California. Between 1769 and 1823, 21 missions were established by the Spanish and the

Franciscan Order along the coast between San Diego and San Francisco. Between 1806 and 1813, Spanish expeditions into the Central Valley led by Lieutenant Gabriel Moraga explored along the main rivers (e.g., American, Calaveras, Cosumnes, Feather, Merced, Mokelumne, Sacramento, San Joaquin, and Stanislaus). The last Spanish expedition into California's interior was led by Luis Arguello in 1817 and traveled up the Sacramento River, past the future site of the City of Sacramento to the mouth of the Feather River, before returning to the coast (Beck and Haase 1974; Gunsky 1989; Hoover et al. 2002).

Mexican Period (1822–1848)

After the end of the Mexican Revolution (1810–1821) against the Spanish crown, the Mexican Period is marked by an extensive era of land grants, most of which were in the interior of the state, as well as by exploration by American (i.e., United States citizens) fur trappers west of the Sierra Nevada Range. The first American trapper to enter California, Jedediah Smith, explored along the Sierra Nevada in 1826, and in 1827 he entered the Sacramento Valley, traveling along the American and Cosumnes rivers. Other trappers soon followed, including employees of the Hudson's Bay Company in 1832. By the mid-1840s, a number of American settlers had arrived in California via overland routes (Gunsky 1989; Hoover et al. 2002).

Most of the land grants to Mexican citizens in California (*Californios*) were in the interior since the Mexican Republic sought to increase the population away from the more settled coastal areas where Spanish settlements had been concentrated. One of the largest land grants in the Sacramento Valley was awarded to John Augustus Sutter after he became a Mexican citizen. In 1839, he founded a trading and agricultural empire called New Helvetia that was headquartered at Sutter's Fort near the divergence of the Sacramento and American rivers in today's City of Sacramento. Only a small portion of the 48,839-acre New Helvetia land grant was located in Sacramento County. The majority of land covered by the grant was located in present-day Sutter and Yuba counties, straddling the east and west sides of the Feather River. Within the six-county plan area of the proposed MTP/SCS, Mexican land grants were also awarded in Yolo and Placer counties, but not El Dorado County (Beck and Haase 1974; Hoover et al. 2002)

American Period (1848–Present)

The American Period was initiated in February 1848 with the signing of the Treaty of Guadalupe Hidalgo, which ended the Mexican-American War (1846–1848), and California became a territory of the United States. Gold was discovered at Sutter's Mill on the American River in Coloma the same year, and by 1849 nearly 90,000 people had journeyed to the gold fields. In 1850, largely as a result of the Gold Rush, California became the thirty-first state. Known today as the "Golden State," California continues to pay tribute to its Gold Rush heritage and to its fields of golden poppies, the state flower (California State Library 2019; Hoover et al. 2002).

Thousands of settlers and immigrants continued to pour into the state, particularly after the completion of the transcontinental railroad in 1869. Subsequent settlement of the American West was also encouraged by the passage of the Swampland Acts of the mid-1800s to early 1900s and the Homestead Act of 1862, among others. The availability of a reliable supply of water was a critical component of successful farm and ranch homesteading and the related growth of riverside towns. Settlements and towns that served the needs of the farming and ranching homesteads were typically

established at river crossing points by trails or roadways, and many became important commercial centers for trade and transport (Beck and Haase 1974; Caltrans 2006 and 2007; Hoover et al. 2002).

As gold mining declined, cattle and sheep ranching and agriculture assumed a more prominent role in the state's economy. The vast Central Valley's climate and fertile soil, plus the construction of extensive irrigation and reclamation systems, combined to produce a variety of fruits, vegetables, nuts, and grains. Population growth and changes in the landscape within the Central Valley region, including the plan area of the proposed MTP/SCS, reflect the importance of mining, the growth of agriculture and ranching, and development of the regional transportation network. A wealth of other natural resources, such as lumber and minerals, including stone and gravel, also contribute to the region's continuing growth and development.

GOLD RUSH ERA

In January 1848, gold was discovered by James Marshall on the South Fork of the American River near present day Coloma in the foothills of Sutter County. Subsequent gold discoveries were made not long after that, such as the discovery made by Jonas Spect on the Yuba River in the vicinity of Marysville in June 1848. The onset of the Gold Rush brought thousands of people into California. Miners poured into the Sierra Nevada foothills in search of placer deposits along the rivers and creeks of El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba counties. When the surficial placer deposits were depleted in the mid-1850s, the miners turned to other methods to reach gold-bearing strata. One of the most common methods, hydraulic mining, introduced vast quantities of rock, sand, and mud into the mountain and valley waterways and was prohibited in 1884. Beginning in 1898, mining companies used large dredges to mine gold deposits along the rivers and major creeks. Some of the tailings associated with this type of gold mining remain visible across today's landscape, particularly along the American, Yuba, and Cosumnes rivers in the plan area of the proposed MTP/SCS. During and after the Gold Rush era from (1848–1855), gold-seekers also turned to hard-rock mining, digging underground tunnels to follow the gold-bearing quartz veins in the Mother Lode (Caltrans 2008; Hoover et al. 2002).

The Gold Rush of 1848 to 1855 triggered the spread of new camps and towns across the Mother Lode and the rich mining region north of the Mother Lode, the flourishing of riverside supply centers like the cities of Sacramento and Marysville, and the development of transportation networks for hauling freight, mail, consumer goods, and passengers. The increasing demand for food and commodities by the miners boosted the expansion and success of the agricultural industry, and increased cattle and sheep ranching and poultry production. Lumber production, the manufacture of clothing and dry goods, the ore processing industry, and the beginning of a fishing industry were also prompted during the Gold Rush era (Beck and Haase 1974; Hoover et al. 2002).

The Gold Rush, and subsequent mining in the decades that followed, dramatically altered California's cultural and natural landscape, particularly portions of the Sacramento Valley and neighboring Sierra Nevada foothills. Mining also contributed to the settlement of the plan area of the proposed MTP/SCS and to the historic significance of individual communities such as the cities of Auburn and Folsom. The growth and variety of techniques employed for gold mining was accompanied by the development of water conveyance systems. In the early 1850s, ditches were dug to get water to the "dry diggings" and companies were soon organized and building ditches, canals, and flumes to supply water to miners using sluices to extract gold from the river gravels. With the advent of hydraulic mining, the demand for water increased and its supply by ditch companies

became even more lucrative. By 1865, over 5,300 miles of mining ditches and canals had been officially recorded in the Mother Lode region. Of these, many are still used for agricultural irrigation, municipal water services and hydroelectric power systems, and remain an important feature of the region's cultural landscape (JRP and Caltrans 2000).

7.2.5 Individual County History

The following is a brief overview of the history of the plan area of the proposed MTP/SCS by county. "County" refers to the geographic area of the county and includes all land in the area, both unincorporated and incorporated.

EL DORADO COUNTY

El Dorado County is one of the original 27 counties created by the California State Legislature in 1850. Originally, the county's boundaries included parts of present-day Amador, Alpine, and Placer counties. By 1919, the state adopted the current boundary lines that are marked to the east by the state of Nevada and to the west by Sacramento County. The American and Cosumnes rivers form the county's northern and southern boundaries. The original county seat was the town of Coloma, but in 1857 it was moved to Placerville where it remains to this day (Coy 1973; Hoover et al. 2002).

On January 24, 1848, James W. Marshall, an employee of John A. Sutter, discovered gold near the area of present-day Coloma. The first mining town in California sprouted soon after his discovery, and the gold region of El Dorado County experienced rapid growth. It is likely the county derives its name, El Dorado, meaning "the gilded man" in Spanish, from Marshall's discovery, as well as the gold discovered by others (Hoover et al. 2002).

Both during and after the Gold Rush, gold mining was the predominant industry in El Dorado County for many years. Large mining camps such as Placerville, El Dorado, and Diamond Springs developed into permanent towns. Other mineral products in the region include large deposits of slate, granite, lime, and asbestos, as well as building stones. By the turn of the twentieth century, lumbering, livestock raising, and farming had joined mining as the principal industries of the county. Another industry that gained popularity in El Dorado County was tourism. In the early 1900s, with the advent of the automobile, visitors increasingly traveled to the Sierra Nevada and Lake Tahoe. U.S. Highway 50 (which was the primary route to the gold fields in 1849, known as the Placerville Road) was California's first state-sanctioned wagon road. It was incorporated into the state (and later the national) highway network during the twentieth century, when it became part of the Interstate Highway System. At present, the county's economy is heavily dependent on recreation and tourism. Eldorado National Forest, which comprises about 57 percent of the county's land base, is one of the most heavily used wilderness areas in the nation. El Dorado County has two incorporated cities (Placerville and South Lake Tahoe) (California Highways 2019; Hoover et al. 2002; Phillips and Miller 1915).

PLACER COUNTY

Placer County was created by the Legislature of the State of California in 1851, from portions of Sutter and Yuba counties. The county takes its name from a form of mining predominant during the Gold Rush—placer mining. The City of Auburn, one of the earliest mining towns in California, was designated the seat of justice when the county was created. Auburn continues to be the county seat today (Hoover et al. 2002).

The earliest settlement in Placer County was Sicard's Ranch, established in 1845, after Theodore Sicard obtained a Mexican land grant in 1844. The ranch became an important stopping place on the Emigrant Trail over Donner Pass to Sutter's Fort. While the population of the county was small at this time, it grew exponentially with the onset of the Gold Rush, and mining towns and camps sprouted up in various places throughout the county (Hoover et al. 2002; Lardner and Brock 1924).

For many years, the primary focus of Placer County's economy was gold mining. During the Gold Rush, placer deposits, which were easier to obtain, were mined in the rivers. Numerous mining camps lined the banks of the American River in the Folsom Mining District, many of which are now beneath Folsom Lake. As gold became more difficult to mine, miners turned to hydraulic mining. The waste gravel and silt created by hydraulic mining collected downstream, creating shallower depths prohibitive to river transportation networks, changing stream ecology, and driving levee construction to control erratic overflows. In 1884, this more industrialized and destructive form of gold mining was prohibited from discharging debris in the Sierra Nevada region by the Sawyer Decision.

In the late 1800s, Placer County's economy shifted slowly away from gold production to agriculture, timber production, and the shipping and freighting industries. The arrival of the railroad in 1864 at Roseville and Rocklin contributed to the county's economic success since it provided access to markets east of the Sierra Nevada. Quarrying and shipping local granite via the railroad also promoted the growth of Rocklin. The production of citrus fruits became especially important during the 1880s and 1890s, while fruit packing and shipping were key county industries in the first two decades of the twentieth century. Newcastle and Loomis are examples of towns that began as mining camps, but became important hubs of the county's fruit industry, while Lincoln and Sheridan continued to support ranching and farming (Hoover et al. 2002; Lardner and Brock 1924).

Recreation and tourism also contributed to Placer County's economy. Much of central and eastern Placer County is included within the Tahoe and Eldorado National Forests, extending to the Tahoe Basin. In the 1930s, Lake Tahoe became known as a recreation center, and the area boomed as a ski resort destination after World War II. The county has five incorporated cities (i.e., Auburn, Colfax, Lincoln, Rocklin, and Roseville) within the plan area of the proposed MTP/SCS (Hoover et al. 2002).

SACRAMENTO COUNTY

Sacramento County is one of the original 27 counties established by the California Legislature in 1850, and the City of Sacramento has always been the county seat. Spanish explorers first visited the Sacramento County region as early as the late 1700s in their search for suitable mission sites. The first American to travel through the Sacramento area was explorer and trapper Jediah Strong Smith, who established the Sacramento Trail during the 1820s. Other explorers followed Smith's general path in the 1830s (Hoover et al. 2002).

Settlement of the Sacramento area by non-indigenous people did not begin until the late 1830s and early 1840s, when individuals such as John Sutter obtained land grants from the Mexican government. Mexican citizens generally received these grants in exchange for an agreement to protect Mexican interests in these remote interior regions. Sutter's settlement at New Helvetia (Sutter's Fort) is probably the best known of these early operations.

At its inception, Sacramento County was largely supported by commerce related to the Gold Rush and river shipping. The City of Sacramento was a central location to the foothill mining districts and served as a river transportation hub. The City had 12 stage lines by 1853 and became the state capital in 1854. After the conclusion of the Gold Rush, when agriculture in the Sacramento Valley became an important part of the economy, Sacramento County, and particularly the city of Sacramento, continued to grow. Wheat was a staple product early on, but by the twentieth century, a variety of fruits, including citrus fruits, as well as nuts, displaced it in importance. The county also experienced tremendous growth as a result of the construction of railroads in the Sacramento area. In 1856, the Sacramento Valley Railroad constructed an alignment from Sacramento to Folsom. In 1869, the transcontinental railroad was completed, linking the Sacramento region directly with markets in the east. From 1860 to 1861, the City of Sacramento was also the westernmost point of the Pony Express (Beck and Haase 1974; Hoover et al. 2002; Phillips and Miller 1915).

By the mid-twentieth century, two military bases had been constructed in the county and a major freeway, Interstate 5, ran through the heart of the old city of Sacramento. While the military bases closed in the late twentieth century, the county continued to grow in economic wealth and population. The county is unique in having a large percentage of residents who live outside the boundaries of the county's seven incorporated cities (i.e., Citrus Heights, Elk Grove, Folsom, Galt, Isleton, Rancho Cordova, and Sacramento), while much of the land outside the urban areas continues to be used for agricultural purposes (Hoover et al. 2002; Sacramento County 2011, 2017).

SUTTER COUNTY

The County of Sutter, one of the original 27 counties created in 1850 by the California State Legislature, was named in honor of the famous Sacramento Valley settler and pioneer, John Augustus Sutter. Initially, the county seat was located in Auburn; however, after Auburn became the seat for Placer County in 1851, the seat was moved to the small town of Vernon (now called Verona). In 1856, the boundaries were fixed to their present locations and Yuba City was designated the county seat, where it remains to this day (Hoover et al. 2002).

The Spanish were the first Europeans to explore the region of Sutter County in the early 1800s. The first American to enter the region was Jedediah Strong Smith, who crossed the Yuba River in 1828. In late May and early June of 1846, well-known American explorer, John C. Frémont, camped in the vicinity of the Sutter Buttes (Hoover et al. 2002).

Sutter County's initial growth was a result of the influx of miners to the region during the Gold Rush. Its principal city, Yuba City, was founded during this period. John Sutter's Hock Farm, established in 1841 on the west side of the Feather River below Yuba City, prospered during this period as a cattle ranch. After the Gold Rush, the county grew slowly and its economy was focused mainly on agriculture. In 1863, county farmer, William Thompson, grew the first Thompson seedless grapes, which were exhibited to the public in Marysville in 1875. The county also became known for producing an assortment of other crops, including grains, peaches, rice, and walnuts. Stock raising and dairy farming were also practiced. Along with Yuba City, Live Oak is the only other incorporated city in the county (Hoover et al. 2002; Phillips and Miller 1915; Sutter County 2008).

YOLO COUNTY

Yolo County is one of the original 27 counties created by the California State Legislature in 1850. Initially, the county's territory was nearly twice as large as it is now and included a large portion of present-day Colusa County. By 1923, the boundaries were redrawn to their current configuration. The Sacramento River spans the entire length of the county's eastern border. The county seat was changed several times, until the City of Woodland became the permanent county seat in 1862 (Coy 1973; Hoover et al. 2002).

The Spanish first explored Yolo County in 1808, sailing up the Sacramento River to present-day Sutter County. American hunters and trappers such as Jedediah Strong Smith and Ewing Young, as well as a group of Hudson's Bay Company trappers also visited the region in the early 1800s. Of the 11 Mexican land grants awarded in the county, the U.S. government eventually confirmed only five (Hoover et al. 2002).

The California Gold Rush of the 1850s transformed Yolo County from an isolated farming community into a booming agricultural region, as disenchanted miners realized they could make greater fortunes through farming and ranching. In the 1840s and 1850s, residents of the county based their livelihood on raising livestock; however, as floods and droughts decimated their herds, farmers increasingly turned to crop farming. Early settlements were concentrated along the waterways, Cache and Putah creeks and the Sacramento River. Barley and wheat became the dominant crops in Yolo County starting in the 1860s. The first Pacific Coast salmon cannery was established in 1864 on the west side of the Sacramento River at Washington, now part of the present-day City of West Sacramento. Alfalfa, used to feed livestock and enrich the soil, was the major irrigated crop in the 1870s. Irrigation improvements in the twentieth century allowed the introduction of new crops, such as rice, into the area. In 1905, the University of California established a College of Agriculture in Yolo County. This evolved into the University of California, Davis in 1959, and its agricultural school continues to enjoy global renown for agricultural research and education (Hoover et al. 2002; Olney 1902).

In the last half of the twentieth century, Yolo County enjoyed a dramatic increase in population growth within its incorporated areas due to its climate, the rural atmosphere, and nearby educational opportunities. The availability of transportation was and continues to be a major countywide asset that provides access to water, rail, air travel, and major road networks, such as Interstates 5 and 80. In addition, the Deep Water Channel to West Sacramento opened in 1963. Today, agriculture and related endeavors remain Yolo County's primary source of economic activity. Over 80 percent of the population resides in the county's four incorporated cities (i.e., Davis, West Sacramento, Winters, and Woodland) (Employment Development Department 2019; Hart 1987).

YUBA COUNTY

Yuba County is one of the original 27 counties created by the California State Legislature in 1850. At the time of its creation, the county included portions of Placer, Nevada, and Sierra counties. In 1851, Yuba County lost almost one-half of its territory when Placer and Nevada counties were created. In the following year, more of its territory was lost when Sierra County was created. The county's current boundary with the Feather and Bear rivers as its western and southern borders was shaped in 1923. Marysville, the county's principal city, has been the county seat since 1850 (Coy 1973; Hoover et al. 2002).

As early as 1808, the Spanish were the first Europeans to enter the territory of what is now Yuba County. In the 1830s, hunters and trappers from the Hudson's Bay Company also periodically penetrated the region. In 1846, American explorer, John C. Frémont, wrote a detailed account of the Maidu (Nisenan) inhabitants (Hoover et al. 2002).

The first Euro-American settlements in Yuba County were established just a few years before Frémont's visit, after John A. Sutter took control of the territory in 1841. In 1842, Theodore Cordua leased a portion of land from Sutter. An employee of Cordua's, Charles Cuvillaud, eventually purchased some of Cordua's ranch. The town of Marysville was laid out on this land, which was named after Cuvillaud's wife, Mary Murphy Cuvillaud. The branch of the California Emigrant Trail over Donner Pass passed through the county and the emigrants rested and obtained supplies at Johnson's Ranch, established in 1844 and located on the Bear River near present-day Wheatland (Hoover et al. 2002).

The Gold Rush brought an influx of miners into Yuba County, and the county experienced an economic and population boom as a result. When the Gold Rush ended, the county continued to gain a portion of its income from gold-related industries. In the 1870s, Marysville foundries manufactured equipment for hydraulic mining. In the early twentieth century, after the Sawyer Decision ended hydraulic mining in 1884, extensive dredging took place along the Yuba River. Some of the early mining towns (e.g., Browns Valley, Brownsville, Camptonville, Clipper Mills, Dobbins, and Smartsville) survive today, while others were destroyed by dredge mining (Hoover et al. 2002; Kelley 1989).

For most of its history, agriculture has been an important part of Yuba County's economy. In 1845, the first wheat crop was planted in the county. From the 1850s to the 1870s, vineyards were planted, grain was produced, and livestock raising was practiced in the eastern part of the county. In the twentieth century, livestock raising continued to be important, as did cultivation of fruits and nuts. By 2017, the most important agricultural elements of Yuba County's economy were walnut, rice, prune, peach, and milk production, as well as cattle raising (Scheer 2017; Thompson & West 1879). Since 1942, the presence of Beale Air Force Base has been a source of economic importance to the county (AECOM 2011; Scheer 2017).

7.2.6 Known Cultural Resources Located in the Plan Area of the Proposed MTP/SCS

The following section presents a broad overview of cultural resources located in the plan area of the proposed MTP/SCS. The term "cultural resources" includes archaeological sites, districts, buildings, structures, and objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reason. Paleontological resources are discussed below in a separate section.

Archaeological resources are locations where human activity has measurably altered the earth or left deposits of prehistoric or historic-era physical remains (e.g., stone tools, bottles, former roads, house foundations). Built environment resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges, canals, levees, railroads) generally over 50 years of age. Traditional or ethnographic cultural resources may include Native American sacred sites or tribal cultural resources, traditional cultural places, and traditional resources of any ethnic community that are important for maintaining the cultural traditions of any group.

A prehistoric or historic archaeological site, district, built environment resource, or traditional cultural resource that is recognized as historically or culturally significant may be determined to be a “historic property” or a “historical resource” as defined by federal law (36 Code Federal Regulations [CFR] Section 800.16[[1]) or state law (Public Resources Code [PRC] Sections T21084.1; 14 California Code of Regulations [CCR] Section 15064.5a). Under state law, an archaeological site may also meet the definition of a “unique archaeological resource” (PRC Section 21083.2). Also under state law, a “tribal cultural resource” may be a “historical resource,” “unique archaeological resource,” or “nonunique archaeological resource” (PRC Section 21074).

Efforts to identify cultural resources within the plan area of the proposed MTP/SCS included a search of records maintained by the California Office of Historic Preservation (OHP), the California Department of Transportation (Caltrans), and the NAHC, plus providing notification to geographically affiliated Native American tribes pursuant to Assembly Bill (AB) 52.

More specifically, general cultural resources information was reviewed for each county (or portion thereof) within the plan area of the proposed MTP/SCS. This information is maintained by OHP as the California Historical Resources Information System (CHRIS) and is collected and managed at the following regional Information Centers:

- Northwest Information Center at Sonoma State University (Yolo County);
- North Central Information Center at California State University, Sacramento (Sacramento, Yuba, Placer, and El Dorado counties); and
- Northeast Information Center at California State University, Chico (Sutter County).

Each Information Center maintains records of known archaeological sites and built environment resources. Resources consulted at the Information Centers included data from the following:

- Historic Property Data File by county for National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) listings, and properties recognized as locally significant;
- Archaeological Determinations of Eligibility by county for NRHP and CRHR listings;
- Historic properties listed in the NRHP and historical resources listed in the CRHR;
- California Points of Historical Interest (PHIs);
- California Historical Landmarks (CHLs); and
- California Inventory of Historical Resources.

In addition to a search of the records maintained by the Information Centers, a review was conducted of the Historic Bridge Inventory for State Agency and Local Agency bridges maintained by Caltrans (Caltrans 2019a and 2019b). The inventory by Caltrans provides an account of bridges listed in the NRHP, bridges that are eligible for NRHP listing, bridges that may be eligible or that are ineligible for NRHP listing, and bridges that remain unevaluated. The original statewide bridge inventory was completed by Caltrans in 1986, and was updated in 2015 for bridges built between 1965 and 1974 (Caltrans 2015). The updated 2019 inventory includes subsequent evaluations required for individual bridge improvement projects. As they reach 50 years of age, bridges constructed in 1975 and later, which have not been previously evaluated, may need to be evaluated for a project by Caltrans or other lead agency.

NATIVE AMERICAN RESOURCES

NAHC was contacted with a request for a search of their Sacred Lands database for any potential sacred sites or other potential traditional cultural properties known to occur within the plan area of the proposed MTP/SCS. The response by NAHC on June 21, 2019, states that their search indicates potential for Native American cultural resources to be located in the plan area of the proposed MTP/SCS. Their response also indicates specific tribal contacts should be made at the project level in order to determine whether sacred lands or areas of cultural sensitivity are present (refer to Appendix Cultural-1).

Pursuant to the requirements of AB 52 (Chapter 532, Statutes of 2014), SACOG is responsible for notifying and responding to any requests received in writing from geographically affiliated tribes for consultation regarding the potential of a project to impact Tribal Cultural Resources (TCRs). SACOG provided formal notification to 15 tribes on November 2, 2018. SACOG's formal notification letter requested that any requests for AB 52 consultation be provided by December 5, 2018, consistent with Public Resources Code Section 21080.3.1, which requires that tribes respond in writing within 30 days of receipt of the formal notification. SACOG did not receive any written requests for consultation within the 30-day statutory timeline.

HISTORIC BUILT ENVIRONMENT RESOURCES

Numerous historic built environment resources are located throughout the greater plan area of the proposed MTP/SCS. Historic built resources generally include buildings, roads, trails, bridges, canals, levees, and railroads usually associated with the historic era beginning with the first Euro-American contact and attaining at least 50 years of age. A historic district is an identifiable entity that contains elements such as a group of residential buildings that contribute to the district's historic character. In general, concentrations of historic built environment resources in the greater plan area of the proposed MTP/SCS occur:

- within historic neighborhoods and business districts;
- adjacent to transportation corridors (i.e., historic trails, highways, railroads, navigable sloughs);
- on historic ranches; and
- in areas of historic-era rock, soil, and mineral extraction.

These built environment resources are commonly associated with key historic events that occurred in the region, including the Gold Rush, hydraulic and dredge mining, agriculture, irrigation, reclamation, and transportation. Within California, thousands of built resources are currently listed in or are eligible for listing in the NRHP or the CRHR. Additional historic built environment resources have been designated as CHLs, PHIs, or as local historic resources or landmarks important to a region or community. In addition to the programs maintained at the national and state level, several local governments throughout the plan area of the proposed MTP/SCS have established listings or passed ordinances in recognition of the importance of such resources to their communities.

The Directory of Properties in the Historic Property Data File (HPD), maintained for each county by OHP, is a master list of all built environment properties that have been evaluated for their historic significance as properties that appear eligible for listing, have been determined eligible for

listing, or are listed in the NRHP or CRHR. In general, listing a property in the NRHP involves submission of a formal nomination form that requires concurrence from the State Historic Preservation Officer (SHPO), the State Historical Resources Commission, and the Keeper of the National Register. Properties that are evaluated and found, with SHPO concurrence, to be eligible for listing under one or more of the NRHP criteria but are never nominated, are afforded the same protections as listed properties. Properties listed or found eligible for listing in the NRHP are also automatically eligible for listing in the CRHR. Historical resources listed in or determined eligible for listing in the CRHR may not be eligible for NRHP listing, but are afforded protection under CEQA. The HPD also includes built environment resources that have been identified as historically significant by local government agencies. Such resources are also afforded protection under CEQA. The property types listed in the HPD are typically non-archaeological in nature and encompass numerous built environment resources, with significant architectural and/or engineering features. For confidentiality reasons, OHP maintains a separate list of archaeological resources.

The HPD provided a broad overview of the number and types of significant historic built environment resources located in the plan area of the proposed MTP/SCS. Tables 7-2 through 7-6 list the number of individually eligible resources, historic properties, historic districts, CHLs, and PHIs located within the plan area of the proposed MTP/SCS. Because the HPD is updated as new resources are continuously located through survey work and other means, and as resources generally reach 50 years of age, the following tables should not be considered final, but are the most comprehensive listing available as of April 2012, when the HPD was last updated by OHP.

In addition, the Historic Bridge Inventory maintained by Caltrans provided an overview of the bridges listed in or eligible for listing in the NRHP (Caltrans 2019a and 2019b). These are provided in Table 7-6. Bridges listed in, or formally determined eligible for listing in, the NRHP are automatically listed in the CRHR. Caltrans last updated the original inventory in 2015, which evaluated most of the state highway and local roadway bridges constructed prior to 1975 (Caltrans 2015). The current 2019 inventory also includes subsequent evaluations required for individual bridge improvement projects (Caltrans 2019a and 2019b).

Table 7-2 lists by county the number of known individual historic and built environment resources in the greater plan area of the proposed MTP/SCS listed in or eligible for listing in the NRHP or CRHR, and those properties recognized as historically significant by local governments. This table includes individual counts of historic district contributing resources.

**Table 7-2
Number of Individual and Built Environment Historic Properties in the Plan Area of the
Proposed MTP/SCS**

County	Properties Listed in the NRHP or CRHR	Properties Determined Eligible for Listing in the NRHP or CRHR	Properties That Appear Eligible for NRHP or CRHR through Survey Evaluation	State Owned Properties That Appear Eligible for NRHP or CRHR	Properties Recognized as Historically Significant by Local Government
El Dorado	92	53	10	11	0
Placer	135	55	66	3	286
Sacramento	702	115	129	4	314

County	Properties Listed in the NRHP or CRHR	Properties Determined Eligible for Listing in the NRHP or CRHR	Properties That Appear Eligible for NRHP or CRHR through Survey Evaluation	State Owned Properties That Appear Eligible for NRHP or CRHR	Properties Recognized as Historically Significant by Local Government
Sutter	22	10	10	0	0
Yolo	113	15	235	5	391
Yuba	89	15	55	5	164

Sources: Yolo County: Northwest Information Center, April 25, 2019; Sacramento, Yuba, Placer, and El Dorado counties: North Central Information Center, April 25, 2019; and Sutter County: Northeast Information Center, April 25, 2019. The HPD database maintained by the OHP was last updated in April 2012. The data in the table excludes the portions of El Dorado and Placer counties that are part of the Tahoe Regional Planning Area.

Table 7-3 includes specific historic districts located in the plan area of the proposed MTP/SCS listed in or eligible for listing in the NRHP or CRHR and those properties recognized as historically significant by local governments. The Historic Districts listed in the table comprise resources including, but not limited to, groupings of residential buildings, structures (such as water conveyance resources), and railroad facilities. For planning purposes, it is important to keep in mind that Historic Districts are often found near downtown city cores where early commercial, industrial, and residential development has occurred. The table provides the name and general location of the Historic Districts; it does not provide a count of individual or contributing resources.

**Table 7-3
Historic Districts Located in the Plan Area of the Proposed MTP/SCS**

City/Location	District Name	Listed in:		Determined Eligible for:		Recommended Eligible for NRHP or CRHR	Recognized as Historically Significant by Local Government
		NRHP	CRHR	NRHP	CRHR		
El Dorado County							
Echo Lake	El Dorado Wall Discontinuous District		X	X			
Eldorado National Forest	West Wright's Lake Tract Historic District		X	X			
Gold Hill	Wakamatsu Tea & Silk Farm Colony District	X	X				
Placer County							
Emigrant Gap	Drum-Spaulding Historic Hydro District		X	X			
Auburn	College Way District					X	
Auburn	Crutcher Court District						X
Auburn	Hale Tract & College Tract, Hale, College Tract District						X
Auburn	Huntley Subdivision, Huntley District						X

City/Location	District Name	Listed in:		Determined Eligible for:		Recommended Eligible for NRHP or CRHR	Recognized as Historically Significant by Local Government
		NRHP	CRHR	NRHP	CRHR		
Auburn	East Auburn, Uptown Business District						X
Dutch Flat	Dutch Flat Historic District	X	X				
Auburn	Old Auburn Historic District	X	X				
Auburn	Parkside Terrace District						X
Sacramento County							
Locke	Locke Historic District	X	X				
McClellan Air Force Base	Sacramento Air Depot Historic District		X	X			
Sacramento	Reclamation District 1000 - American River Watershed		X	X			
Sacramento	9th Street Plaza Park Historic District					X	
Sacramento	Capitol Extension District	X	X				
Sacramento	Alkali Flat North Historic District	X	X				
Sacramento	Boulevard Park	X	X				
Sacramento	Alkali Flat West Historic District	X	X				
Sacramento	Alkali Flat Central Historic District	X	X				
Sacramento	Old Sacramento Historic District	X	X				
Sacramento	Transcontinental Railroad Terminus and Shops Historic District					X	
Sacramento	Upper K Street Commercial District					X	
Walnut Grove	Walnut Grove Chinese-American Historic District	X	X				
Sacramento	R Street Corridor Historic District		X	X			
Elk Grove	Elk Grove Historic District/Old Town Elk Grove	X	X				

City/Location	District Name	Listed in:		Determined Eligible for:		Recommended Eligible for NRHP or CRHR	Recognized as Historically Significant by Local Government
		NRHP	CRHR	NRHP	CRHR		
Walnut Grove	Walnut Grove Commercial/Residential Historic District	X	X				
Walnut Grove	Walnut Grove Japanese-American Historic District	X	X				
Isleton	Isleton Chinese and Japanese Commercial Districts	X	X				
Sacramento	New Helvetia Historic District	X	X				
Sacramento	Southside Park Historic District	X	X				
Sacramento	McKinley Park Historic District	X	X				
Sutter County							
Live Oak	Live Oak Historic Commercial District	X	X				
Yolo County							
Woodland	Downtown Woodland Historic District	X	X				
Winters	Main Street Historic District	X	X				
Yuba County							
Marysville	Marysville Historic Commercial District	X	X				

Sources: Yolo County: Northwest Information Center, August 2011; Sacramento, Yuba, Placer, and El Dorado counties: North Central Information Center, August 2011; and Sutter County: Northeast Information Center, August 2011. Actions taken by the State Historical Resources Commission for years 2012 to May 8, 2019; retrieved May 2019 from http://ohp.parks.ca.gov/?page_id=24479. Spreadsheet of NRHP Listed Properties current to April 4, 2019; retrieved May 2019 from <https://www.nps.gov/subjects/nationalregister/database-research.htm>. The data in the table excludes the portions of El Dorado and Placer counties that are part of the Tahoe Regional Planning Area.

Tables 7-4 and 7-5 list by county and city the CHLs and PHIs located in the plan area of the proposed MTP/SCS. Since these are significant historical resources, each should be considered in planning processes. Some of these properties are also listed in the NRHP, and some CHLs are also listed in the CRHR.

**Table 7-4
California Historical Landmarks Located in the Plan Area of the Proposed MTP/SCS**

City/Location	CHL #	Name
El Dorado County		
Placerville	141	Hangman's Tree
Placerville	142	Studebaker's Shop (site of)
Coloma	143	Marshall Monument
Kelsey	319	Marshall's Blacksmith Shop
Shingle Springs	456	Shingle Springs
Placerville	475	Old Dry Diggins - Old Hangtown Placerville
Georgetown	484	Georgetown
El Dorado	486	El Dorado (Originally Mud Springs)
Diamond Springs	487	Diamond Springs
Greenwood	521	Greenwood
Coloma	530	Gold Discovery Site
Pilot Hill	551	Site of California's First Grange Hall
Folsom (Vicinity)	569	Mormon Island
Folsom (Vicinity)	570	Negro Hill
Folsom (Vicinity)	571	Salmon Falls
Folsom (Vicinity)	572	Condemned Bar
Clarksville	699	Mormon Tavern-Overland Pony Express Route in California
El Dorado	700	El Dorado-Nevada House (Mud Springs) Overland Pony Express Route in California
Placerville	701	Placerville - Overland Pony Express Route in California
Rescue	703	Pleasant Grove Overland Pony Express Route in California
Cedar Grove	704	Sportsman's Hall Overland Pony Express Route in California
US. Highway 50 (at Ice House Road)	705	Moore's (Riverton) - Overland Pony Express Route in California
US. Highway 50 (near Kyburz)	706	Webster's (Sugar Loaf House) - Overland Pony Express Route in California
US. Highway 50 (at Strawberry)	707	Strawberry Valley House - Overland Pony Express Route in California
Rescue	747	Coloma Road - Rescue
Coloma	478	Coloma Road - Coloma
Placerville	767	Methodist Episcopal Church
Gold Hill	815	Wakamatsu Tea and Silk Farm Colony
American River near State Route 49	1051	Mountain Quarries Railroad Bridge
Placer County		
Dutch Flat	397	Town of Dutch Flat
Forest Hill	398	Yankee Jim's
Forest Hill	399	Town of Forest Hill
Between Fowler and Newcastle	400	Virginiatown

City/Location	CHL #	Name
Iowa Hill	401	Iowa Hill
Michigan Bluff	402	Town of Michigan Bluff
Emigrant Gap	403	Emigrant Gap
Auburn	404	City of Auburn
Gold Run	405	Town of Gold Run
Auburn	463	Ophir
Folsom Lake State Recreation Area	585	Pioneer Express Trail
Squaw Valley	724	Pioneer Ski Area of America, Squaw Valley
Roseville	780-1	First Transcontinental Railroad - Roseville
Rocklin	780-2	First Transcontinental Railroad - Rocklin
Newcastle	780-3	First Transcontinental Railroad - Newcastle
Auburn	780-4	First Transcontinental Railroad - Auburn
Colfax	780-5	First Transcontinental Railroad - Colfax
Soda Springs	799-2	Overland Emigrant Trail
Penryn	885	Griffith Quarry
American River near State Route 49	1051	Mountain Quarries Railroad Bridge
Sacramento County		
Sacramento	366	Pioneer Telegraph Station
Meiss Road and Highway 16, west of Sloughhouse	439	Site of Grist Mill Built by Jared Dixon Sheldon
Prairie City Road and Highway 50	464	Prairie City
Highway 16 and Michigan Bar Road	468	Michigan Bar
Sacramento	525	Sutter's Fort
Sacramento	526	California's First Passenger Railroad
Folsom	558	Terminal of California's First Passenger Railroad
Sacramento	566	Sacramento City Cemetery
Sloughhouse	575	Sloughhouse
Sacramento	591	Sutter's Landing
Sacramento	592	New Helvetia Cemetery
Sacramento	593	Sutterville
Sacramento	594	Site of China Slough
Sacramento	595	Eagle Theater
Sacramento	596	Site of Home of Newton Booth
Sacramento	597	What Cheer House
Sacramento	598	Site of Stage and Railroad (First)
Sacramento	599	Crocker Art Gallery
Sacramento	601	Western Hotel
Sacramento	602	Ebner's Hotel
Sacramento	603	Lady Adams Building
Sacramento	604	Site of Sam Brannan House

City/Location	CHL #	Name
Sacramento	605	Site of Sacramento Union
Sacramento	606	B.F. Hastings Building
Sacramento	607	Adams and Company Building
Sacramento	608	Site of Orleans Hotel
Sacramento	609	D.O. Mills Bank Building
Sacramento	610	Overton Building
Sacramento	611	Original Sacramento Bee Building
Sacramento	612	Site of Pioneer Mutual Volunteer Firehouse
Sacramento	613	Site of Congregational Church
Sacramento	614	Stanford-Lathrop Home
Folsom Powerhouse State Park	633	Old Folsom Powerhouse
Sacramento	633-2	Old Folsom Powerhouse - Sacramento Station A
Sacramento	654	Site of the First Jewish Synagogue Owned by a Congregation on the Pacific Coast
Sacramento	654-1	Chevra Kaddisha (Home of Peace Cemetery)
Franklin (Franklin Cemetery)	657	Grave of Alexander Hamilton Willard
Sacramento	666	Camp Union, Sutterville
Elk Grove	680	Murphy's Ranch
Sacramento	697	Five Mile House - Overland Pony Express Route in California
Rancho Cordova	698	Fifteen Mile House - Overland Pony Express Route in California
Folsom	702	Folsom - Overland Pony Express Route in California
Elk Grove	719	Grave of Elitha Cumi Donner Wilder
Sacramento	745	The Coloma Road - Sutter's Fort
Folsom Lake State Recreation Area	746	The Coloma Road - Nimbus Dam
Sacramento	780	First Transcontinental Railroad
Sacramento	780-8	First Transcontinental Railroad - Western Base of the Sierra Nevada
Sacramento	812	Old Sacramento
Elk Grove	817	Site of First County Free Library Branch in California
Sacramento	823	Governor's Mansion
Sacramento	869	Site of First and Second State Capitols at Sacramento
Sacramento	872	California's Capitol Complex
Sacramento	900	Nisipowinan Village Site
Sacramento	934	Temporary Detention Camps for Japanese Americans - Sacramento Assembly Center
Sacramento	967	California Almond Growers Exchange Processing Facility
Sacramento	991	State Indian Museum
Sacramento	1013	Site of the First African American Episcopal Church Established on the Pacific Coast

City/Location	CHL #	Name
Sutter County		
Yuba City (Highway 99)	346	Hock Farm (Site of)
Yuba City (Highway 20)	929	Site of the Propagation of the Thompson Seedless Grape
Yolo County		
Woodland	851	Woodland Opera House
Woodland	864	Gable Mansion
West Sacramento	1040	First Pacific Coast Salmon Cannery Site
Yuba County		
Highway 20, west of Smartsville	320	Timbuctoo
Smartsville	321	Smartsville
Wheatland	493	Johnson's Ranch
Wheatland	799-3	Overland Emigrant Trail
Marysville	889	Bok Kai Temple
Arboga Community, south of Marysville	934	Temporary Detention Camps for Japanese Americans - Marysville Assembly Center
Wheatland	1003	Site of the Wheatland Hop Riot of 1913

Sources: California Department of Parks and Recreation, Office of Historic Preservation, California State Historical Landmarks listed by County; last modified 2014; retrieved May 2019 from <http://ohp.parks.ca.gov/listedresources/>. Actions taken by the State Historical Resources Commission for years 2012 to May 8, 2019; retrieved May 2019 from http://ohp.parks.ca.gov/?page_id=24479. The data in the table excludes the portions of El Dorado and Placer counties that are part of the Tahoe Regional Planning Area.

**Table 7-5
California Points of Historical Interest in the Plan Area of the Proposed MTP/SCS**

City/Vicinity	PHI#	Name	On NRHP
El Dorado County			
Carson Pass Summit	P42	Tragedy Spring (State Highway 88)	
Georgetown	P186	Hoboken House	
Placerville	P533	Methodist Episcopal Church/Episcopal Church of Our Savior	
Placerville	P637	Hangtown's Gold Bug Park - Hattie (Gold Bug), Priest, Silver Pine Mines, and 8-stamp Stamp Mill	
Placerville	P652	Pearson's Soda Works	X
Placerville	P653	The Stable Building	
Placerville	P734	The Smith Flat House	
Somerset	P747	Willow School	
Placerville	P809	Spanish Hill Mine Complex (Highway 50)	
Placer County			
Auburn	P354	Buckner's Bar	
Auburn	P355	Grizzly Bear House	
Auburn	P356	Liberty House	
Auburn	P357	Butcher Ranch	
Auburn	P358	Todd's Valley	
Auburn	P359	Clipper Gap	
Auburn	P360	U.S. Ranch	
Auburn	P361	Spring Garden School	
Penryn	P517	Griffith Residence	

City/Vicinity	PHI#	Name	On NRHP
Newcastle	P578	Newcastle Portuguese Hall	X
Dutch Flat	P618	Baxter (Baxter's Camp)	
Auburn	P619	Allen & Sandhorfer Blacksmith, Auburn Iron Works	
Auburn	P656	Burns Home, Howell Home	
Rocklin	P664	Finnish Temperance Hall, Finn Hall	
Auburn	P693	Auburn Grammar School, Auburn Civic Center Project	
Sheridan	P728	Sheridan Cash Store	
Auburn	P803	Auburn IOOF Hall	
Auburn	P821	Masonic Temple, Masonic Hall	
Newcastle	P836	Newcastle Fruit Sheds	
Auburn	P838	Auburn Public Library, Old Auburn Library	
Sacramento County			
Rancho Cordova	P823	American River Grange Hall #172	X
Rio Linda	P614	The Archway	
Folsom	P712	Chinese Diggings, Natoma Station Ground Sluice	
Sacramento	P666	Curran Farmhouse	
Sacramento	P754	Eastern Star Hall	
Elk Grove	P717	Elk Grove Grammar School/Elk Grove Unified School District	
Sacramento	P800	George Hack House	
Walnut Grove	P665	Jean Harvie School, Walnut Grove Community Center	
Sacramento	P126	Joseph Hampton Kerr Homesite	
Galt	P579	Liberty Schoolhouse	
Folsom	P798	Negro Bar	
Carmichael	N562	Nisenan Village Site	X
Sacramento	P532	Old Elk Grove Hotel Site	
Galt	P743	Rae House	
Sacramento	P149	River Mansion	
Citrus Heights	P737	Rusch Home	
Sacramento	P611	St. Elizabeth's Church	
Orangevale	P734	The Villa (Serve Our Seniors Incorporated)	
Sacramento	P744	Whitter Ranch (Originally Saylor Ranch)	
Folsom	P810	Yeong Wo Cemetery	
Citrus Heights	P*	Fourteen Mile House	
Sutter County			
Yuba City	P395	Bill Butler House	
Sutter	P315	Butte House watering Trough	
Yuba City	P390	Campbell's House	
Yuba City	P393	E.G. Van Arsdale House	
East Nicolaus	P333	East Nicolaus High School	
Yuba City	P396	Eugene Boyd House	
Sutter	P309	Freemont Monument	
Yuba City	P391	G.W. Carpenter House	
Yuba City	P311	H.C. McLaughlin Law Office	
Yuba City	P389	McGruder House	
East Nicolaus	P98	McKague Home	
Meridian	P314	Old Brick House of Sumner Paine	
Yuba City	P394	S.G. Stabler and Swinson House	
Yuba City	P312	Sanborn Law Office/Winship Hall	
Yuba City	P313	Sutter County Canning & Packing Company	

City/Vicinity	PHI#	Name	On NRHP
Yuba City	P387	Sutter County Courthouse	
Yuba City	P388	Sutter County Hall of Records	
Yuba City	P826	Sutter County Masonic Temple	
Yuba City	P392	Thomas D. Boyd House	
Yuba City	P385	William Harkey house	
Yuba City	P386	William O'Banion House	
Meridian	P310	Wooley's Grave	
Yuba County			
Capay	P567	Capay School	
West Sacramento	P765	Leonidas Taylor Monument	
Yolo	P213	Mary's Chapel and Cemetery	
Davis	P144	Russell Boulevard	
Woodland	P214	Saint Agnes Church	
Woodland	P767	William B. Gibson House, Yolo County Museum	
Woodland	P374	Woodland Congregational Church, First Church of Christian Scientist	
Woodland	P766	Yolo County Courthouse	
Yuba County			
Wheatland	P376	Camp Far West Cemetery	
Wheatland	P467	Chinese Cemetery and Funeral Pyre	
Challenge	P350	Falck House	
Wheatland	P377	Grace Episcopal Church	
Wheatland	P375	Johnson's Crossing	
Marysville	P828	Marysville Hotel	
Wheatland	P378	Muck Home	
Smartville	P817	Parks Bar Bridge 16-11 Site	
Marysville	P436	Ramirez Castle/The Mansion	
Dobbins	P783	Sacred Heart Church	
Smartville	P740	Smartville Church of the Immaculate Conception	
Wheatland	P379	Wheatland Masonic Temple	X
Challenge	P351	Woodleaf Hotel	X
Marysville	P841	Yuba Power House	

Sources: California Department of Parks and Recreation, Office of Historic Preservation, California Points of Historical Interest listed by County; retrieved May 2019 from <http://ohp.parks.ca.gov/listedresources/>. Actions taken by the State Historical Resources Commission for years 2012 to May 8, 2019; retrieved May 2019 from http://ohp.parks.ca.gov/?page_id=24479. A star (*) indicates a number is not available for recently nominated PHI. The data in the table exclude the portions of El Dorado and Placer counties that are part of the Tahoe Regional Planning Area.

Table 7-6 lists the historic bridges located in the plan area of the proposed MTP/SCS recorded in the Caltrans state and local bridge inventories (Caltrans 2019a and 2019b). In consideration of the proposed MTP/SCS planned transportation improvements, it is possible that a historic bridge could be located in or near a proposed project. The majority of historic bridges located in the plan area of the proposed MTP/SCS are found near major waterways, such as the American and Sacramento rivers. The historic bridges listed below should be considered in planning processes for road widening and interchange improvements. As noted, Caltrans last updated the original inventory in 2015 (Caltrans 2015), with the current 2019 list including evaluations for subsequent individual bridge improvement projects, and bridges listed or formally determined eligible for listing in the NRHP are automatically listed in the CRHR (Caltrans 2019a and 2019b).

**Table 7-6
Historic Bridges in the Plan Area of the Proposed MTP/SCS**

Bridge Name	Location	Bridge #	State of California Bridge		Local Agency Bridge	
			Listed in NRHP	Determined Eligible for NRHP	Listed in NRHP	Determined Eligible for NRHP
El Dorado County						
Echo Summit Sidehill Viaduct	03-ED-050-67.30	25 0044		X		
South Fork American River	0.1 mi E of SR 49	25C0004				X
Camp Creek	0.5 mi SE Mt Aukum Rd	25C0025				X
Rock Creek	5.5 mi NE of SR 193	25C0099				X
Weber Creek	1.1 mi NE Missouri Flat	25C0116				X
Placer County						
North Fork American River	1.5 mi W Shirt Tail Cyn Rd	19C0002				X
North Fork American River	East of I-80	19C0060				X
Sierra Boulevard Overhead	Roseville St & Lincoln St	19C0067				X
Sacramento County						
Sacramento River (Isleton)	03-SAC-160-5.86-IST	24 0051		X		
Steamboat Slough	03-SAC-160-19.76	24 0052		X		
Sacramento River (Paintersville)	03-SAC-160-20.87	24 0053		X		
Three Mile Slough	03-SAC-160-L6.98	24 0121		X		
Sacramento River (Freeport)	Concts Frprt Bl S Riv Rd	24C0001				X
American River (Jibboom Street)	0.1 mi N Richards Blvd	24C0022				X
American River (Greenback Lane)	0.2 mi E Folsom-Auburn Rd	24C0067				X
Gold Creek	0.1 mi W Amer River Cyn	24C0268				X
Yolo County						
Sacramento River (Tower Bridge)	03-YOL-275-13.07-WSAC	22 0021	X			
Cache Creek	500 ft E SH 16	22C0003				X
Davis Underpass	0.1 mi S of 1 st St	22C0017			X	
Sacramento River ("I" Street)	At Sacramento Co. line	22C0153			X	
Yuba County						
Dry Creek	1.9 mi S Smartville Rd	16C0006				X
Oregon Creek	0.1 mi E of SR 49	16C0017			X	

Note: bridges listed in or formally determined eligible for listing in the NRHP are automatically listed in the CRHR. Source: Caltrans Historic Bridge Inventory, last updated in 2015. State Agency Bridges retrieved May 13, 2019, from http://www.dot.ca.gov/hq/structur/strmaint/hs_state.pdf; Local Agency Bridges retrieved May 13, 2019, from http://www.dot.ca.gov/hq/structur/strmaint/hs_local.pdf.

ARCHAEOLOGICAL RESOURCES

The variety of archaeological resources generally present in the six counties within the plan area of the proposed MTP/SCS include prehistoric sites, historic-era archaeological sites, sites with both prehistoric and historic-era components, and prehistoric or historic-era isolated finds.

Archaeological resources may also include Native American sacred sites, tribal cultural resources, traditional cultural places, or traditional cultural properties, which are discussed separately in the next section.

Prehistoric site types in the plan area of the proposed MTP/SCS include, but are not limited to, habitation sites, human burials, lithic scatters, bedrock milling features, toolstone quarries, and isolated artifacts. Historic-era archaeological sites in the plan area of the proposed MTP/SCS typically date to the Gold Rush era and early Euro-American settlement. Five categories of historical archaeological property types have been identified within the plan area of the proposed MTP/SCS: mining sites, building or structure foundations, refuse scatters and dumps, transportation-related features, and water conveyance systems. Concentrations of both prehistoric and historic archaeological sites in the plan area of the proposed MTP/SCS are commonly located along natural waterways, such as the American, Cosumnes, Feather, and Sacramento rivers as well as major tributaries and creeks.

The Archaeological Determinations of Eligibility (DOE), as well as the HPD, are master lists maintained by OHP that include all archaeological resources evaluated for their historic significance as properties that appear eligible for listing, have been determined eligible for listing, or are listed in the NRHP or CRHR. The DOE and HPD were reviewed in order to provide a broad overview of the number of significant archaeological resources located in the plan area of the proposed MTP/SCS. As noted under the section on Historic and Built Environment Resources, archaeological sites that are evaluated and found, with SHPO concurrence, to be eligible for listing under one or more of the NRHP criteria but are never nominated, are afforded the same protections as listed properties. Historical resources of an archaeological nature listed in or determined eligible for listing in the CRHR may not be eligible for NRHP listing, but are afforded protection under CEQA. The DOE and HPD may also list archaeological resources that have been identified as historically significant by local government agencies. Such resources are also afforded protection under CEQA.

Table 7-7 includes the number of archaeological resources in the plan area of the proposed MTP/SCS listed in or eligible for listing in the NRHP and CRHR, and those sites, if any, identified as historically significant by local agencies and listed in the DOE. Because the DOE and HPD are updated as new resources are continuously located or reevaluated, the table should not be considered final, but is the most comprehensive listing available as of April 2012, when the DOE and HPD were last updated by OHP. It is also important to note that the exact location of archaeological resources in the plan area of the proposed MTP/SCS is confidential and disclosure is restricted by federal and state laws, consistent with Section 304 of the National Historic Preservation Act (NHPA), Section 9 of Archaeological Resources Protection Act (ARPA), and State OHP Guidelines.

**Table 7-7
Number of Significant Archaeological Resources in the Plan Area of the Proposed MTP/SCS**

County	Eligible for Listing in the NRHP or CRHR	Listed in NRHP	Listed in CRHR	Recognized as Historically Significant by Local Government
El Dorado	41	1	42	0
Placer	90	2	92	0
Sacramento	20	6	26	0
Sutter	1	0	1	0
Yolo	5	0	5	0
Yuba	2	3	6	0

Sources: Yolo County: Northwest Information Center, April 25, 2019; Sacramento, Yuba, Placer, and El Dorado counties: North Central Information Center, April 25, 2019; and Sutter County: Northeast Information Center, April 25, 2019. The DOE and HPD databases maintained by the OHP were last updated in April 2012. The data in the table excludes the portions of El Dorado and Placer counties that are part of the Tahoe Regional Planning Area.

TRADITIONAL OR ETHNOGRAPHIC RESOURCES

Traditional or ethnographic cultural resources may include Native American sacred sites or tribal cultural resources, traditional cultural places, and traditional resources of any ethnic community that are important for maintaining the cultural traditions of any group. Such resources may include, but not be limited to, traditional landscapes, sacred mountains, buildings, ethnic neighborhoods, structures, objects, cemeteries or burial sites, ceremonial use areas, or areas where plants are collected for traditional foods, medicines, or basket weaving.

The most common type of Native American resources in the plan area of the proposed MTP/SCS are typically associated with resource procurement activities along waterways or ceremonial use areas. Traditional cultural places can range from expansive geographic areas such as the Sutter Buttes to individual locations associated with beliefs or practices that are of traditional cultural significance such as fishing and plant gathering sites and sacred ceremonial sites. Traditional cultural resources may also be recorded as archaeological resources in locations where human activity has measurably altered the earth or left deposits of prehistoric physical remains.

7.2.7 Paleontological Resources and Sensitivity

Paleontological resources include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains that are more than 5,000 years old and occur mainly in Pleistocene or older sedimentary rock units. Key information used in the preparation of this section is derived from published geologic literature and maps, and from guidelines published by the Society of Vertebrate Paleontology (SVP).

The SVP guidelines establish the criteria for screening the paleontological potential of rock units as high potential, undetermined, low potential, or no potential (SVP 2010). Paleontological potential refers to the likelihood that a rock unit will yield a unique or significant paleontological resource. All sedimentary rocks, some volcanic rocks, and some low-grade metamorphic rocks have potential to yield significant paleontological resources. Depending on location, the paleontological potential of subsurface materials generally increases with depth beneath the surface, as well as with proximity to known fossiliferous deposits.

The fossil yielding potential of a particular area is highly dependent on the geologic age and origin of the underlying rocks, which vary in distribution and surface exposure throughout the plan area of the proposed MTP/SCS. In the planning stage for a specific project, the fossil yielding potential is best determined by initially identifying the aerial and stratigraphic extents of the local geology, and performing a site-specific search of fossil locality records and peer-reviewed literature, followed by a field survey if appropriate.

For program-level purposes, the description of the paleontological sensitivity of geologic units in the plan area of the proposed MTP/SCS is necessarily broad and focuses on widespread or well-known rock units. This discussion also focuses on the vertebrate fossil record because the rarity and uniqueness of these fossils contribute to a high paleontological potential of the associated rock units. Paleontological resources reviewed in the following subsections are described by county and are based on review on May 14, 2019 of the records maintained in the University of California Museum of Paleontology (UCMP) database. “County” is used to refer to the geographic area of the county and includes all land, both county and city, in that area.

EL DORADO COUNTY

El Dorado County is in the Sierra Nevada geomorphic province. The Mehrten Formation, which is known to contain vertebrate fossils and is considered to have a high paleontological sensitivity, is widespread in the central portion of the county (Wagner et al. 1981). Otherwise, the sensitivity for paleontological resources in El Dorado County is similar to much of eastern Yuba and Placer counties where the sensitivity of the many geologic units in the foothills of the Sierra Nevada province require further study. Plutonic and metavolcanic units are unlikely to contain paleontological resources, but sedimentary and volcanic deposits could be sensitive for these resources.

Of special note is the cave paleontology of El Dorado County. The county has 3,795 records of vertebrate fossils, and these records are almost exclusively from Hawver Cave, Cool Cave, and Crystal Caverns (UCMP 2019a). These caves formed in limestone deposits in the Calaveras Formation. As Pleistocene-age animal remains accumulated in the caves, cave fill covered the remains. Cave fossils represent the animals that lived in, fell into, or were dragged by carnivores into the cave. This type of preservation is extremely rare and rich in scientific information. Fossils from these caves include ground sloths, raven, cougar, mammoth, dire wolf, deer, rodents, rabbit, and saber-toothed cat. Limestone in the county is therefore considered highly sensitive for paleontological resources.

PLACER COUNTY

As with Yuba County, Placer County straddles the Great Valley and Sierra Nevada geomorphic provinces. The paleontological sensitivity of the geologic units is similar to Yuba County with much of the western edge of the county underlain by highly sensitive Pleistocene units, including the Riverbank Formation (Gutierrez 2011; Wagner et al. 1981). Except for the limestone deposits of the Calaveras Formation, the sensitivity of the numerous geologic units in the foothills of the Sierra Nevada geomorphic province requires further study. Of the five UCMP vertebrate fossil records in Placer County, one is from the Pleistocene, a mastodon; three are from the Tertiary, a bony fish, a mammal, and a reptile; and one is from the Cretaceous, a cartilaginous fish (UCMP 2019b). Unlike

the limestone cave paleontology of El Dorado County, no fossils have been reported from the Calaveras Formation deposits in Placer County.

In addition, the well-known Mehrten Formation of Tertiary age is exposed in Placer County. Although there are no records of fossils in this unit in Placer County, UCMP has 318 records of vertebrate fossils from the Mehrten Formation in other California counties in the Great Valley geomorphic province. Fossils found in this unit include horse, mastodon, bony fish, saber-toothed cat, rodent, reptile, and camel (UCMP 2019c). The Mehrten Formation contains significant fossils that aid in interpreting late Miocene uplift of the Sierra Nevada mountain ranges, natural life during this time, climate, and environment of deposition. This unit is therefore considered highly sensitive for paleontological resources.

SACRAMENTO COUNTY

Sacramento County is entirely within the Great Valley geomorphic province, and Quaternary deposits directly underlie most of the county. The youngest of these deposits, such as the basin deposits and levee and channel deposits, are of Holocene age (less than 10,000 years old) and are therefore unlikely to contain paleontological resources. The Holocene deposits, however, may occur as a thin veneer overlying older, more sensitive deposits (Dawson 2009; Gutierrez 2011; Wagner et al. 1981).

Older Quaternary deposits of Pleistocene age, such as the Riverbank and Modesto Formations, are widespread in Sacramento County and are considered highly sensitive for paleontological resources. The UCMP database contains 126 records of vertebrate fossils in the county, including records for mammoth, camel, wood rat, and snake. Nearly all of these are from the Riverbank Formation (UCMP 2019d), which is well represented by important fossils recovered from excavations in North Natomas in 1989. Fossils from construction of the Arco Arena (now Sleep Train Arena) included remains of ground sloth, dire wolf, horse, rabbit, birds, wood rat, bison, camel, coyote, antelope, deer, and mammoth, as well as clams, fish, turtles, frogs, snakes, and land plant wood, leaves, and seeds (Jefferson 1991; Hilton et al. 2000). Although there are presently no fossil records from the Modesto Formation in Sacramento County, diverse vertebrate faunas have been collected from similar Pleistocene alluvial units in other parts of northern California.

Numerous Tertiary and Jurassic deposits occur along the eastern margin of Sacramento County. These could be considered sensitive for paleontological resources because they could contain vertebrate fossils, though further information is needed.

SUTTER COUNTY

The paleontological sensitivity of most of Sutter County, which is directly underlain by Quaternary deposits, is similar to Sacramento and Yolo counties (Saucedo and Wagner 1992). The Holocene basin, levee and channel deposits are not considered sensitive for paleontological resources, but the older Pleistocene deposits (such as the Riverbank and Modesto Formations) are considered highly sensitive. Of the five vertebrate fossil records in Sutter County, three are in Pleistocene deposits and are of bison, horse, and an unidentified mammal (UCMP 2019e).

Although wholly in the Great Valley geomorphic province, Sutter County is unique because of the intrusion of the Sutter Buttes. Tertiary and Cretaceous geologic units are exposed in this portion of the valley as a result of volcanism associated with the Sutter Buttes (Saucedo and Wagner 1992).

UCMP has two records for Tertiary fossils in Sutter County, one of a cartilaginous fish in the Capay Formation and another of a horse in the Sutter Formation (UCMP 2019e). These two geologic units are therefore considered sensitive for paleontological resources.

YOLO COUNTY

Yolo County is in both the Great Valley and Coast Ranges geomorphic provinces. The eastern portion of Yolo County is in the Great Valley province and, similar to Sacramento County, is directly underlain by Quaternary deposits (Dawson 2009; Gutierrez 2011; Wagner and Bortugno 1982; Wagner et al. 1981). As in Sacramento County, the Holocene deposits are not considered sensitive for paleontological resources, but the older Pleistocene deposits (such as the Riverbank and Modesto Formations) are considered highly sensitive. Of the 92 UCMP records for vertebrate fossils in Yolo County, 21 are Pleistocene age and many are from the Modesto Formation (UCMP 2019f). The Pleistocene fossils include mammoth, giant ground sloth, saber-toothed cat, deer, and horse. Aggregate mining operations along lower Cache Creek have unearthed mammoth fossils in gravels mapped as the Modesto-Riverbank Formations since 1955 and found an isolated mammoth fossil discovery in the Tehama Formation at the mouth of the Capay Valley in 2004 (Baseline Environmental Consulting 2019). Seventy of the vertebrate fossil records for Yolo County are from the western margin of the county, which is in the Coast Ranges province. These records are from the Tehama Formation of Pliocene age and include fossils of fish, horses, and rodent (UCMP 2014f). Numerous vertebrate fossils in the Tehama Formation are also recorded in several other California counties. This unit is therefore considered highly sensitive for paleontological resources. Other Tertiary deposits in the plan area of the proposed MTP/SCS may also likely be considered sensitive. Numerous invertebrate marine fossils, for example, have been recovered from the Eocene-aged Capay Formation, which is exposed on the western side of the Capay Valley and is considered to have a high paleontological sensitivity.

YUBA COUNTY

Yuba County straddles the Great Valley and Sierra Nevada geomorphic provinces. There are no UCMP records of vertebrate fossils in Yuba County (UCMP 2019g). The paleontological sensitivity of the western portion of the county in the Great Valley province, however, is considered high because the geologic units are the same as in Sacramento County and include Pleistocene sediments such as the Riverbank and Modesto Formations (Saucedo and Wagner 1992).

The sensitivity of the many geologic units in the foothills of the Sierra Nevada geomorphic province in Yuba County requires further study. Plutonic and metavolcanic units are unlikely to contain paleontological resources, but sedimentary and volcanic deposits could be sensitive for these resources.

7.3 Regulatory Setting

7.3.1 Federal Regulations

FEDERAL ANTIQUITIES ACT OF 1906

The Federal Antiquities Act (16 U.S. Code Sections 431–433) was enacted with the primary goal of protecting cultural resources in the United States. As such, it prohibits appropriation, excavation, injury, or destruction of “any historic or prehistoric ruin or monument, or any object of antiquity”

located on lands owned or controlled by the federal government, without permission of the secretary of the federal department with jurisdiction. It also establishes criminal penalties, including fines or imprisonment, for these acts, and sets forth a permit requirement for collection of antiquities on federally owned lands.

Neither the Federal Antiquities Act itself nor its implementing regulations (43 CFR Section 3) specifically mentions paleontological resources. However, several federal agencies, including the National Park Service (NPS), Bureau of Land Management, and U.S. Forest Service, have interpreted objects of antiquity as including fossils. Consequently, the Federal Antiquities Act represents an early cornerstone for efforts to protect the nation's paleontological resources.

ARCHAEOLOGICAL AND PALEONTOLOGICAL SALVAGE STATUTE OF 1906 AND FEDERAL-AID HIGHWAY ACTS OF 1956 AND 1960

The Archaeological and Paleontological Salvage Statute (23 U.S. Code Section 305) amended the Federal Antiquities Act of 1906 via the following text.

Funds authorized to be appropriated to carry out this title to the extent approved as necessary, by the highway department of any State, may be used for archaeological and paleontological salvage in that state in compliance with the Act entitled "An Act for the Preservation of American Antiquities," approved June 8, 1906 (PL 59-209; 16 U.S. Code Sections 431-433), and State laws where applicable.

This statute, included in the Federal-Aid Highway Acts (23 U.S. Code Section 305), gives specific authority to use federal funds for salvage of paleontological sites impacted by highway projects. Salvage of paleontological resources is permitted under federal highway project funding, as long as the excavated materials and any information recovered from them are used for public purposes and not for private gain.

DEPARTMENT OF TRANSPORTATION ACT OF 1966

Section 4(f) of the Department of Transportation Act (DOT Act), as amended and recodified in 1983 (49 U.S. Code Section 303), is triggered by projects funded or approved by a DOT agency, including the Federal Highway Administration, Federal Transit Administration, Federal Railroad Administration, and Federal Aviation Administration. Section 4(f) requires a comprehensive evaluation of all environmental impacts resulting from projects that involve the use, or interference with use, of the following types of land:

- publicly owned park lands that are open to the public;
- publicly owned recreation areas that are open to the public;
- publicly owned wildlife and waterfowl refuges that are open to the public; and
- publicly- or privately-owned historic sites of federal, state, or local significance that are eligible for listing in or are listed in the NRHP.

This evaluation, called the Section 4(f) statement, must be completed by proponents of federal-aid transportation projects in the plan area of the proposed MTP/SCS that affect Section 4(f) protected

land, as defined above. In order to proceed with use of the above-referenced lands, the evaluation must be sufficiently detailed to permit the U.S. Secretary of Transportation to determine that:

- there is no feasible and prudent alternative to the use of such land;
- the program or project includes all possible planning to minimize harm to any park, recreation area, wildlife and waterfowl refuge, or historic site that would result from the use of such lands; and
- if there is a feasible and prudent alternative, a proposed project using Section 4(f) protected lands cannot be approved by the Secretary; or if there is no feasible and prudent alternative, the proposed project must include all possible planning to minimize harm to the affected lands.

Detailed inventories of the locations and likely impacts on resources that fall into the Section 4(f) category are required in project-level environmental assessments.

In August 2005, Section 4(f) was amended under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) to simplify the process and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). Under these provisions, the U.S. Secretary of Transportation may find such a *de minimis* impact if consultation with the SHPO under Section 106 of the NHPA results in a determination that a transportation project will have no adverse effect on the historic site or that there will be no historic sites (i.e., historic properties) affected by the proposed action. In this instance, analysis of avoidance alternatives of Section 4(f) protected properties is not required and the Section 4(f) evaluation process is complete.

Paleontological resources are addressed under the DOT Act only if located on lands protected by Section 4(f).

NATIONAL HISTORIC PRESERVATION ACT OF 1966

NHPA, as amended (16 U.S. Code Section 470 et seq.), is the primary federal law governing the preservation of cultural and historic resources in the U.S. The NHPA establishes the federal government policy on historic preservation and the programs through which this policy is implemented. Section 106 of the NHPA (16 U.S. Code Section 470f) requires federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object that is included in or determined eligible for inclusion in the NRHP and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings (36 CFR Section 800.1).

As defined in 36 CFP Section 800.16(y), a federal undertaking means a “project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval.”

Specific regulations regarding compliance with Section 106 of the NHPA state that, although the tasks necessary to comply with Section 106 may be delegated to others, the federal agency is ultimately responsible for ensuring that the Section 106 process is completed according to statute. The Section 106 process is a consultation process that involves the SHPO throughout; the process

also calls for including Native American tribes and interested members of the public, as appropriate, throughout the process. Implementing regulations for Section 106 (36 CFP Section 800) detail the following five basic steps.

1. initiate the Section 106 process;
2. identify and evaluate historic properties (per 36 CFP Section 800.16[1], a “historic property” is a property that is listed in, or eligible for listing in, the NRHP);
3. assess the effects of the undertaking on historic properties within the area of potential effects;
4. if historic properties are subject to adverse effects, the federal agency, the SHPO, and any other consulting parties (including Native American tribes) continue consultation to seek ways to avoid, minimize, or mitigate the adverse effects. A memorandum of agreement (MOA) is usually developed to document the measures agreed upon to resolve the adverse effects; and
5. proceed in accordance with the terms of the MOA.

Section 101(d)(6)(A) of the NHPA allows properties of traditional religious and cultural importance to a Native American tribe to be determined eligible for inclusion in the NRHP. “Traditional cultural properties” (TCPs) eligible for listing in the NRHP are defined as areas or specific locations that have cultural significance for a living community of people that have been passed down through the generations, usually orally or through practice (Parker and King 1998). As such, TCPs can be associated with any ethnic community, including Native American tribes.

Section 106 of the NHPA does not apply to paleontological resources unless they are found in a culturally-related context (e.g., fossilized marine shell in association with a human burial). In addition to the Antiquities Act (16 U.S. Code Sections 431–433) of 1906, the preservation and salvage of fossils and other paleontological resources can be protected under the National Registry of Natural Landmarks (16 U.S. Code Sections 461–467) and NEPA, which directs federal agencies to “preserve important historic, cultural, and natural aspects of our national heritage” (see above).

Section 110 of the NHPA requires federal agencies to assume the responsibility for the preservation of historic properties under their jurisdiction or control. Section 110(f) of the NHPA, as codified at 36 CFR Section 800.10, requires federal agencies to undertake planning and actions necessary to minimize harm to any designated National Historic Landmark (NHL). If a proposed project is found to have the potential to adversely affect an NHL, the Secretary of the Interior (typically represented by a representative of the NPS) is invited to participate in the consultation.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

NEPA (42 U.S. Code Section 4321 et seq.) directs federal agencies to use all practicable means to “preserve important historic, cultural, and natural aspects of our national heritage” (Section 101[b] [4]). Regulations for implementing NEPA are found in 40 CFR Sections 1500–1508. Consideration of cultural resources is required under NEPA for proposed federal actions.

NEPA does not provide specific guidance regarding paleontological resources, but the NEPA requirement that federal agencies take all practicable measures to “preserve important historic,

cultural, and natural aspects of our national heritage” (NEPA Section 101[b][4]) is interpreted as applying to paleontological resources.

AMERICAN INDIAN RELIGIOUS FREEDOM ACT OF 1978

The American Indian Religious Freedom Act (AIRFA) (42 U.S. Code Section 1996) pledges to protect and preserve the traditional religious rights of American Indians, Aleuts, Eskimos, and Native Hawaiians. The AIRFA establishes a national policy that traditional Native American practices and beliefs, sites (and right of access to those sites), and the use of sacred objects shall be protected and preserved. If a place of religious importance to American Indians could be affected by a federal undertaking, the AIRFA promotes consultation with American Indian religious practitioners, which could be coordinated with Section 106 consultation. Amendments to Section 101 of NHPA in 1992 strengthened the interface between the AIRFA and NHPA by clarifying the following: (1) properties of traditional religious and cultural importance to an American Indian tribe or Native Hawaiian organization could be determined to be eligible for inclusion in the NRHP; and (2) in carrying out its responsibilities under Section 106, a federal agency shall consult with any American Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to properties described under (1).

ARCHEOLOGICAL RESOURCES PROTECTION ACT OF 1979

The ARPA (43 CFR Section 7) establishes uniform definitions, standards, and procedures to be followed by all federal land managers in providing protection for archaeological resources, located on public lands and Native American lands. Under ARPA, additional requirements could apply to agency action if federal or Native American lands are involved. ARPA: (1) prohibits unauthorized excavation on federal and American Indian lands; (2) establishes standards for permissible excavation; (3) prescribes civil and criminal penalties; (4) requires agencies to identify archeological sites; and (5) encourages cooperation between federal agencies and private individuals.

NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT OF 1990

The intent of the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S. Code Section 3001) is to identify Native American affiliation or lineal descent and ensure the rightful disposition, or repatriation, of Native American human remains, funerary objects, sacred objects, and items of cultural patrimony that are in federal possession or control. The regulations implementing the requirements of NAGPRA relating to the inadvertent discovery of human remains and objects of cultural patrimony of Native American origin on federal or tribal lands are described in 43 CFR Section 10.4.

OMNIBUS PUBLIC LANDS MANAGEMENT ACT OF 2009

The Omnibus Public Lands Management Act (16 U.S. Code Section 1132) contains provisions for the protection and preservation of paleontological resources. Under this law, the secretaries of the departments of Interior and Agriculture are directed to inventory, manage, and protect paleontological resources on the public lands they administer. In addition, the secretaries are directed to coordinate these efforts and to establish education programs to increase public awareness of the significance of paleontological resources. The law also prohibits the collection of

paleontological resources from federal lands without a permit, except in the case of noncommercial collecting that complies with other regulations for that federal land.

SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

The Secretary of the Interior's Standards for the Treatment of Historic Properties are intended to promote responsible preservation practices for treatment of historic properties (buildings, structures, objects, districts, and landscapes) (Grimmer 2017). The advisory, not regulatory, standards do not, in and of themselves, prescribe decisions about which features of a historic property should be saved and which can be changed. But once a treatment is selected, the standards provide philosophical consistency and guidance to the work. The four treatment approaches, in order of priority are:

- preservation, which places a high premium on the retention of all historic fabric through conservation, maintenance and repair. It reflects a property's continuum over time, through successive occupancies, and the respectful changes and alterations that are made;
- rehabilitation, which emphasizes the retention and repair of historic materials, but more latitude is provided for replacement because it is assumed the property is more deteriorated prior to work. (Both preservation and rehabilitation standards focus attention on the preservation of those materials, features, finishes, spaces, and spatial relationships that, together, give a property its historic character.);
- restoration, which focuses on the retention of materials from the most significant time in a property's history, while permitting the removal of materials from other periods; and
- reconstruction, which establishes limited opportunities to re-create a non-surviving site, landscape, building, structure, or object in all new materials.

NATIONAL REGISTER OF HISTORIC PLACES

The NRHP is the official list of the nation's recognized cultural resources deemed worthy of preservation. Authorized under the NHPA, the NRHP is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect cultural resources of national, state, and local significance. NPS, under the Secretary of the Interior, administers the NRHP. The State OHP administers the statewide NRHP program under the direction of the SHPO. Properties listed in the NRHP include districts, sites, buildings, structures, and objects that are significant to American history, architecture, archaeology, engineering, and culture. These resources contribute to an understanding of the historic and cultural foundations of the nation. The NRHP includes:

- all historic areas in the National Park System;
- NHLs which have been designated by the Secretary of the Interior for their significance to all Americans; and
- properties significant to the nation, state, or community which have been nominated by the state historic preservation offices, federal agencies, and tribal preservation offices, and have been approved by the NPS.

To be eligible for inclusion in the NRHP, a cultural resource must possess integrity and meet at least one of the following four criteria (A-D) delineated at 36 CFR Section 60.4. The quality of

significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association, and that:

- Criterion A: are associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B: are associated with the lives of persons significant in our past; or
- Criterion C: embody the distinct characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D: have yielded, or are likely to yield, information important in prehistory or history (36 CFR Section 60.4).

To retain historic integrity, a property must possess several and usually most of the seven aspects of integrity (location, design, setting, materials, workmanship, feeling and association). The retention of specific aspects of integrity is paramount for a property to convey its significance. Determining which of these aspects are most important to a particular property requires knowing why, where, and when the property is significant (NPS 1997).

Certain property types are generally excluded from consideration for listing in the NRHP, but can be considered if they meet one of the four significance criteria (A-D) listed above, possess integrity, and meet the special requirements of the seven “criteria considerations” listed below. For example, buildings and structures less than 50 years old ordinarily are not considered eligible for listing in the NRHP. Under Criteria Consideration G (see below), however, a property achieving significance within the past 50 years is eligible for NRHP inclusion if it is of “exceptional” importance (36 CFR Section 60.4). The seven criteria considerations are as follows:

- Criteria Consideration A: Religious properties,
- Criteria Consideration B: Moved properties,
- Criteria Consideration C: Birthplaces and Graves,
- Criteria Consideration D: Cemeteries,
- Criteria Consideration E: Reconstructed properties,
- Criteria Consideration F: Commemorative properties, and
- Criteria Consideration G: Properties that have achieved significance within the past 50 years (eligible if property is of “exceptional” importance).

7.3.2 State Regulations

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA (PRC Section 21000 et seq.) and the CEQA Guidelines (14 CCR Section 15000 et seq.) are the principal regulatory controls addressing whether a project will have a significant effect on the environment, including impacts on historical resources, unique archaeological resources, tribal cultural resources, human remains, and paleontological resources in California. Projects with the

potential to adversely affect significant cultural resources, human remains, or unique paleontological resources must be reviewed through the CEQA process. The designated CEQA lead agency for approval of a project is responsible for complying with CEQA's requirements regarding the identification of feasible measures to mitigate significant adverse changes to historical resources, unique archaeological resources, tribal cultural resources, human remains, and paleontological resources and ensuring that the measures are enforceable through permit conditions, agreements, or other measures.

Historical Resources

“Historical resource” is a term with defined statutory meaning (PRC Section 21084.1; determining significant impacts on historical and archaeological resources is described in the State CEQA Guidelines Section 15064.5). Under Section 15064.5(a) of the State CEQA Guidelines (14 CCR Section 15064.5[a]), historical resources include, but are not limited to, the following:

- a resource listed in or determined eligible by the State Historical Resources Commission for listing in the CRHR;
- a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in an historical resource survey meeting the requirements of PRC Section 5024.1(g) (presumption of historical significance);
- a resource that meets at least one of the four criteria for CRHR listing (provided below); or
- a resource that the lead agency otherwise determines is a historical resource as defined by Public Resources Code Sections 5020.1(j) or 5024.1. (14 Cal. Code Regs. Section 15064.5[a]).

CEQA Guidelines Section 15064.5(b) identifies actions that will result in a significant adverse effect on an historical resource:

- A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment; and
- “Substantial adverse change in the significance of an historical resource” means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

The significance of an historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

CEQA Guidelines Sections 15064.5(b)(3), 15064.5(b)(4), and 15126.4(b) define appropriate mitigation for historical resources. For state-owned historical resources as described in PRC Section 5024, Section 15064.5(b)(5) states that lead state agencies shall consult with the SHPO.¹ For transportation projects that involve state highways, in accordance with CEQA Guidelines Section 15064.5(a) state-owned historical resources would include built or archaeological resources within Caltrans right-of-way that are listed in or determined eligible for listing in the NRHP or CRHR, that are registered as or meet CHL criteria, that are included in a local register of historical resources, or that have been identified as historically significant by local government agencies.

Archaeological Resources

Sections 15064.5(c) and 15064.5(f) of the CEQA Guidelines address archaeological sites and identify required steps in the process for identifying resources, determining if the resources are historical resources or unique archaeological resources, and mitigating for unknown subsurface resources discovered during development. CEQA Guidelines Section 15126.4(b)(3) also recommends mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

As noted, CEQA distinguishes between two classes of archaeological resources: archaeological resources that meet the definition of a historical resource as above, and “unique archaeological resources.” An archaeological resource is considered unique if it can be clearly demonstrated that there is a high probability that, without merely adding to the current body of knowledge, the archaeological artifact, object, or site meets any of the following three criteria:

- is directly associated with a scientifically recognized important prehistoric or historic event or person; or
- contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information; or
- has a special and particular quality such as being the oldest of its type or the best available example of its type (Public Resources Code Section 21083.2(g)).

CEQA Guidelines Section 15064.5(c)(4) notes that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of a project on those resources shall not be considered a significant effect on the environment.

¹ Consultation with the SHPO is required for federal undertakings in compliance with Section 106 of the NHPA. Under CEQA Guidelines Section 15064.5(b)(5), consultation with the SHPO is required as provided in Public Resources Code Section 5024.5 where a State lead agency proposes an action affecting State-owned historical resources. Consultation with the SHPO should be coordinated in a timely manner with the preparation of environment documents.

CEQA Guidelines Section 15064.5(d) states that when an initial study identifies the existence of, or probable likelihood, of Native American human remains within a proposed project area, the lead agency will work with the appropriate Native Americans as identified by the NAHC. Section 15064.5(e) of the CEQA Guidelines describes the steps that should be taken in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery.

Tribal Cultural Resources

Pursuant to Assembly Bill (AB) 52 (Statutes of 2014), CEQA also requires lead agencies to consider whether projects will affect tribal cultural resources. As defined under PRC Section 21074, “tribal cultural resources” are either of the following:

- Sites, features, places, cultural landscapes that are geographically defined in terms of the size and scope of the landscape, sacred places, and objects with cultural value to a California Native American Tribe that are either:
 - Included or determined to be eligible for inclusion in the CRHR; or
 - Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria for inclusion in the CRHR set forth in Public Resources Code Section 5024.1(c), if supported by substantial evidence and taking into account the significance of the resource to a California Native American tribe.
- A historical resource as defined in Public Resources Code Section 21084.1, a unique archaeological resource as defined in Public Resources Code Section 21083.2(g), or a nonunique archaeological resource as defined in Public Resources Code Section 21083.2(h) may also be TCRs.

CEQA further established a consultation process with California Native American tribes for proposed projects in geographic areas that are traditionally and culturally affiliated with that tribe. Per PRC Section 21073, “California Native American tribe” includes federally and non-federally recognized tribes on the NAHC contact list. NAHC maintains an inventory of California Native American sacred sites. Access to these records is restricted due to their sensitive nature and they are exempt from public disclosure. Native American historic, cultural, or sacred sites can be listed in or eligible for listing in the CRHR (PRC Sections 5097.9 and 5097.993). Considering that Native American sacred sites, traditional cultural places, TCRs, or TCPs may also be categorized as archaeological resources, an unknown number may be included on the DOE and HPD master lists of significant archaeological resources maintained by the OHP in the plan area of the proposed MTP/SCS (see Table 7-8).

Subject to certain prerequisites, CEQA requires, among other things, that a lead agency consult with the geographically affiliated tribe before the release of an environmental review document for a proposed project regarding project alternatives, recommended mitigation measures, or potential significant effects, if the tribe so requests in writing. If the tribe and the lead agency agree upon mitigation measures during their consultation, these mitigation measures must be recommended for inclusion in the environmental document (PRC Sections 21080.3.1, 21080.3.2, 21082.3, 21084.2, and 21084.3).

Per PRC Section 21084.2, “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 21084.3 suggests optional mitigation measures if the lead agency determines that the project will have a significant impact on TCRs. These include avoidance of damaging effects, preferably by preservation in place to protect the cultural and natural context, permanent conservation easements or other interests in real property, and protecting the resource.

TRIBAL CONSULTATION FOR GENERAL PLANS AND SPECIFIC PLANS

Senate Bill (SB) 18 (Stats. 2004, ch. 904; Gov. Code Sections 65352.3–5) requires that, prior to the adoption or amendment of a city or county’s general plan or specific plans, the city or county shall consult with California Native American tribes that are on the contact list maintained by the NAHC. The intent of this law is to preserve or mitigate impacts on places, features, and objects, as defined in PRC Sections 5097.9 and 5097.993, which are located within the city or county’s jurisdiction. The law also states that the city or county shall protect the confidentiality of information concerning the specific identity, location, character, and use of those places, features, and objects identified by Native American consultation. Government Code Sections 65362.3 to 65362.5 apply to all general and specific plans adopted and/or amended after March 1, 2005.

As the proposed MTP/SCS is not a general plan or specific plan, SB 18 does not apply. However, SB 18 would apply to updates to county or city general plans or specific plans that may be adopted by local jurisdictions in the future.

THE MILLS ACT OF 1972

The Mills Act (Gov. Code Section 50280 et seq.) provides for reduced property taxes on eligible historic properties in return for the property owner’s agreement to maintain and preserve the historic property. Preservation of properties is to be in accordance with the standards and guidelines set forth by the U.S. Secretary of the Interior. To be designated, a building must meet qualifying criteria such as significant architecture, association with a historically significant event or person, or location in a historic district. Criteria for designation are described in greater detail under the sections on CRHR, CHLs, and PHIs.

CALIFORNIA GOVERNMENT CODE SECTION 25373

California Government Code Section 25373 gives local governments authority to acquire property for the preservation or development of a historical landmark. In addition, local governments may provide special conditions or regulations for the protection, enhancement, perpetuation, or use of places, sites, buildings, structures, works of art, and other objects having a special character or special historical or aesthetic interest or value.

CALIFORNIA GOVERNMENT CODE SECTION 27288.2

California Government Code Section 27288.2 requires the county recorder for which historical resources reside to record a certified resolution establishing a historical resources designation issued by the State Historical Resources Commission or a local agency. For previously designated

properties, the county may record the certified resolution establishing the historical resources designation upon submission.

CALIFORNIA CODE OF REGULATIONS TITLE 14 SECTIONS 4307-4309

The sections of the CCR relating to the Department of Parks and Recreation afford protection to geologic features, paleontological features, archaeological features, and “paleontological materials,” but grant the director of the state park system authority to issue permits for specific activities that may remove, treat, disturb, or destroy such resources, if the activities are in the interest of the state park system and for state park purposes (14 CCR Sections 4307–4309).

STATE HISTORIC BUILDING CODE

The State Historic Building Code (Health & Safety Code Sections 18950–18961) provides alternative regulations and standards for the rehabilitation, preservation, restoration (including related reconstruction), or relocation of qualified historical buildings or structures. These alternative standards and regulations are intended to facilitate the rehabilitation, restoration, or change of occupancy so as to preserve their original or restored architectural elements and features, to encourage energy conservation and a cost-effective approach to preservation, and to provide for the safety of the building occupants.

CALIFORNIA NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT

California Native American Graves Protection and Repatriation Act of 2001 (Health & Safety Code Sections 8010–8011) establishes a state repatriation policy that is consistent with and facilitates implementation of the federal NAGPRA. This law strives to ensure that all California Indian human remains and cultural items are treated with dignity and respect and encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California.

DISTURBANCE OF HUMAN REMAINS

Disturbance of human remains without the authority of law is a felony (Health & Safety Code Section 7052). According to state law (Health & Safety Code Section 7050.5; PRC Section 5097.98), if human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the coroner of the county has been informed and has determined that no investigation of the cause of death is required, or
- if the remains are of Native American origin, one of the following has occurred:
 - the descendants from the deceased Native Americans have made 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 as provided in PRC Section 5097.98, or
 - the NAHC was unable to identify a descendent or the descendent failed to make a recommendation within 48 hours after being notified by the commission.

According to the Health and Safety Code, six or more human burials at one location constitute a cemetery (Health & Safety Code Section 8100), and disturbance of Native American cemeteries is a felony (Health & Safety Code Section 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC within 24 hours; the NAHC then has jurisdiction over the Native American remains (Health & Safety Code Section 7052.5c; PRC Section 5097.98).

CALIFORNIA HERITAGE FUND

PRC Sections 5079 to 5079.65 outline the appropriate uses of the California Heritage Fund, which shall be available, upon appropriation by the state Legislature, to implement laws providing for historical resource preservation. These include, but are not limited to, Section 5028 and Executive Order W-26-92, under criteria developed by the OHP and adopted by the State Historical Resources Commission.

ARCHAEOLOGICAL, PALEONTOLOGICAL AND HISTORICAL SITES

PRC Sections 5097 to 5097.6 outline the requirements for cultural resource analysis prior to the commencement of any construction project on State Lands. This section provides that the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands is a misdemeanor. It prohibits the knowing destruction of objects of antiquity without a permit (expressed permission) on public lands, and provides for criminal sanctions. This section was amended in 1987 to require consultation with the California NAHC whenever Native American graves are found. Violations for the taking or possessing remains or artifacts are felonies.

NATIVE AMERICAN HERITAGE

PRC Sections 5097.9–5097.991 provide that no public agency, and no private party using or occupying public property, or operating on public property, under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the U.S. Constitution and the California Constitution, nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require it. In addition, this section details the composition and responsibilities of NAHC. NAHC strives for the preservation and protection of Native American human remains, associated grave goods, and cultural resources.

NAHC has developed a strategic plan to assist the public, development community, federal and local agencies, educational institutions, and California Native Americans to better understand problems relating to the protection and preservation of cultural resources and to serve as a tool to resolve these problems and create an awareness among lead agencies and developers of the importance of working with Native Americans. PRC Sections 5097.91 and 5097.98 were amended by AB 2641 in 2006. This bill authorizes NAHC to bring an action to prevent damage to Native American burial grounds or places of worship and establishes more specific procedures to be implemented in the event that Native American remains are discovered.

UNAUTHORIZED ACTIONS

PRC Section 5097.5 specifically defines unauthorized excavation, removal, or destruction of archaeological, paleontological, or historical resources on public lands as a misdemeanor, except with the express permission of the public agency having jurisdiction over the lands.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

The California Register of Historical Resources (CRHR) is a state program for use by state and local agencies, private groups and citizens to identify, evaluate, register and protect California's historical resources. The CRHR is the authoritative guide to the state's significant historical and archaeological resources. The CRHR program encourages public recognition and protection of resources of architectural, historical, archaeological and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under CEQA. Established in 1992, the criteria and procedures for CRHR eligibility parallel those of the NRHP.

In order for a resource to be designated for CRHR inclusion, a resource must retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance, and must meet at least one of the following four criteria:

- Criterion 1: Be associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- Criterion 2: Be associated with the lives of persons important to national, California or local history;
- Criterion 3: Embody the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
- Criterion 4: Have yielded, or have the potential to yield, information important to the prehistory or history of the nation, California or the local area (PRB Section 5024.1[c]).

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance.

As described in PRC Section 5024.1(d), resources that are automatically listed in the CRHR include those listed in or formally determined eligible for listing in the NRHP ("historic properties") and California Historical Landmarks from No. 770 onward. As defined in Public Resources Code Sections 5097.9 and 5097.993, Native American historic, cultural, or sacred sites could be listed or eligible for listing in the CRHR pursuant to PRC Section 5024.1.

The effects of CRHR-eligibility designation include limited protection, whereas environmental review may be required under CEQA if the historical resource may be impacted by a project. Additionally, the local assessor may enter into a contract with the property owner for property tax reduction in accordance with the Mills Act of 1972 (Government Code Section 50280 et seq.).

CALIFORNIA HISTORICAL LANDMARKS

CHLs are buildings, structures, sites, or places that have been determined to have statewide historical significance by meeting at least one of the criteria listed below. The resource also must be approved for designation by the county board of supervisors or city council in whose jurisdiction it is located; be recommended by the State Historical Resources Commission; and be officially designated by the Director of CSP.

To be eligible for designation as a CHL, a resource must meet at least one of the following criteria:

- be the first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California);
- be associated with an individual or group having a profound influence on the history of California; or
- be a prototype of, or an outstanding example of, a period, style, architectural movement or construction, or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer or master builder.

The effects of designation as a CHL include limited protection, whereas environmental review may be required under CEQA if the property is threatened by a project. CHLs from No. 770 onward are automatically listed in the CRHR. In addition, the local assessor may enter into a contract with the property owner for property tax reduction in accordance with the Mills Act of 1972 (Gov. Code Section 50280 et seq.).

CALIFORNIA POINTS OF HISTORICAL INTEREST

PHIs are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. No historical resource may be designated as both a CHL and a PHI. If a PHI is subsequently granted status as a CHL, the PHI designation will be retired.

To be eligible for designation as a PHI, a resource must meet at least one of the following criteria:

- be the first, last, only, or most significant of its type within the local geographic region (city or county);
- be associated with an individual or group having a profound influence on the history of the local area; or
- be a prototype of, or an outstanding example of, a period, style, architectural movement or construction, or be one of the more notable works or the best surviving work in the local region of a pioneer architect, designer or master builder.

The effects of designation as a PHI include limited protection, whereas environmental review may be required under CEQA if the property may be impacted by a project. Points designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. In addition, the local assessor may enter into a contract with the property owner for property tax reduction in accordance with the Mills Act of 1972 (Gov. Code Section 50280 et seq.).

7.3.3 Local Regulations

GENERAL PLANS

Many cities and counties include cultural and paleontological resource preservation policies in their general plans that include some mechanism for protecting cultural and paleontological resources in those communities that could affect or be affected by the proposed MTP/SCS. In general, the sections pertaining to prehistoric and historic archaeological and historic built environment resources address identification and maintenance and afford cultural resources a measure of local protection. The policies outlined in the individual general plans should be consulted prior to any undertaking or project.

Cultural and paleontological resources are generally discussed in either the Open Space Element or the Conservation Element of a general plan. Policies regarding cultural resources are similar throughout the plan area of the proposed MTP/SCS and call for the identification, protection, interpretation and enhancement of important historical, archaeological, paleontological, and cultural resources and their contributing environments.

The six countywide general plans applicable in the plan area of the proposed MTP/SCS include policies related to paleontological resources under the section on cultural resources. Although local city laws, ordinances, or regulations do not necessarily address paleontological resources, paleontological resources are included as significant resources under CEQA.

CERTIFIED LOCAL GOVERNMENTS

In 1980, NHPA was amended to include the Certified Local Governments (CLG) program. The purpose of this program is to support local governments in efforts to identify, evaluate, register, and preserve historic resources within their jurisdictions and to integrate preservation into local planning. A CLG is a local government whose historic preservation program and/or ordinance has been certified pursuant to Section 101(c) of the NHPA. The CLG program is a partnership among local governments, the State of California OHP, and the NPS, which is responsible for administering the National Historic Preservation Program. CLGs must be included in the process of nominating properties within their jurisdiction to the NRHP. They are also eligible to apply for a portion the state's annual federal allotment of Historic Preservation Funds that are designated for historic preservation projects.

The following CLGs are located in the plan area of the proposed MTP/SCS (listed by county):

- Sacramento County: City of Sacramento and City of Elk Grove;
- Yolo County: City of Davis; and
- Yuba County: City of Marysville.

7.4 Impacts and Mitigation Measures

7.4.1 Methods and Assumptions

This program-level analysis assesses the potential impacts to cultural, paleontological, and tribal cultural resources that could result from implementation of the proposed MTP/SCS based on the projected land use pattern and planned transportation improvements of the proposed MTP/SCS.

By 2040, implementation of the proposed MTP/SCS would result in a land use pattern and transportation network that is different from existing conditions. Unless otherwise stated, “existing conditions” in the proposed MTP/SCS refers to conditions in the baseline year of 2016. The proposed MTP/SCS uses 2016 because it is the most recent year for which comprehensive land use, demographic, traffic count, and VMT data are available for the SACOG region. Chapter 1 – Introduction includes a more detailed discussion of the baseline for the proposed MTP/SCS. Exceptions to the 2016 baseline in this chapter include the following:

For each impact, implementation of the proposed MTP/SCS is assessed on three levels. First, impacts are assessed at the regional level for the entire plan area. Second, impacts are assessed for the plan area’s five Community Types: Center and Corridor Communities, Established Communities, Developing Communities, Rural Residential Communities, and Lands Not Identified for Development. And third, implementation of the proposed MTP/SCS is assessed in terms of its impacts to the region’s High Frequency Transit Areas (HFTAs). Refer to Chapter 2 – Project Description for a full description of the Community Types and HFTAs and the projected land use pattern and planned transportation improvements within these areas.

This evaluation of cultural, tribal, and paleontological resource impacts assumes the lead agency for specific projects that result from implementation of the proposed MTP/SCS would comply, as appropriate, with federal, state, and local regulations, as follows:

- All projects undertaken by or jointly with Caltrans must abide by procedures and policies, outlined in Caltrans Standard Environmental Reference (SER), Volume 2 Cultural Resources. The SER also dictates the nature and extent of cultural resource protections consistent with federal and state environmental laws and regulations with which Caltrans must comply.
- Projects undertaken by or jointly with Caltrans must abide by the guidance outlined in Caltrans Standard Environmental Reference (SER), Volume 1, Chapter 8, Paleontological Resources. The chapter provides guidance on pertinent federal and state environmental laws and regulations. In the event a project involves lands administered by either federal or state agencies, the local offices of those agencies shall be contacted for additional guidance.
- For projects that constitute federal undertakings (defined in the Regulatory Setting section for cultural resources), consultation with the lead federal agency, SHPO (or THPO as relevant), and appropriate consulting parties would be required in accordance with Section 106 of the NHPA.
- For projects that constitute federal undertakings, compliance with Section 4(f) of the DOT Act of 1966 would require a comprehensive evaluation of all environmental impacts resulting from projects that involve the use of or interference with the use of publicly- or

privately-owned historic sites of federal, state, or local significance that are eligible for listing in or are listed in the NRHP. Paleontological resources would be addressed under the DOT Act only if located on lands protected by Section 4(f).

- For projects that will affect state-owned historical resources as described in PRC Section 5024, if the lead agency is a state agency, consultation with the SHPO by the lead state agency is required as provided in PRC Section 5024.5. Sections 5024(f) and 5024.5 require SHPO consultation before altering, transferring, relocating, or demolishing state-owned historical resources that are listed in or are eligible for inclusion in the NRHP or are registered or eligible for registration as CHLs.
- If human remains are discovered during implementation of individual projects under the proposed MTP/SCS, all work within a minimum of 50 feet of the discovery site would halt immediately. Representatives of the project sponsor and/or lead agency would notify the County Coroner, as stipulated in Section 7050.5 of the California Health and Safety Code. The Coroner would determine whether the remains are Native American and, if so, would contact NAHC by telephone within 24 hours. NAHC would follow the stipulations in PRC Section 5097.98, including notification of those persons it believes to be most likely descended from the deceased Native American. If NAHC is unable to identify a descendant, the descendant is unable to make a recommendation, or the landowner rejects the recommendation, NAHC would mediate any dispute between the parties. Where such mediation fails to provide measures acceptable to the landowner, the landowner shall reinter the human remains and associated funerary items with appropriate dignity on the property, in a location not subject to further subsurface disturbance.
- If human remains are discovered on federal or tribal lands, the provisions of the NAGPRA would apply. For NAGPRA-associated discoveries, it may be necessary to provide 24-hour, onsite security.
- Projects would comply with existing local regulations and policies that exceed any of the state or federal measures that protect built environment resources, archaeological resources, TCRs, paleontological resources, or unique geologic features.

CULTURAL AND TRIBAL RESOURCES

For cultural and tribal resources, the HPD and DOE master lists maintained by the OHP, Caltrans Historic Bridge Inventory, NAHC, and responses from geographically affiliated Native American tribes (as described in 7.2 Environmental Setting section above) are the primary sources used to gather information on known significant archaeological resources, sacred sites, tribal cultural resources, and built environment properties in the plan area of the proposed MTP/SCS. In general, these data were gathered at the county and city level through record searches of databases outlined in Section 7.2.6. The exact locations of significant cultural resources in or near specific proposed project areas related to the proposed MTP/SCS are not known at this time. Consequently, impacts have been assessed below at the program-level and take into consideration potential direct or indirect impacts that may occur to known and unknown cultural resources, including tribal cultural resources and human remains, in the plan area of the proposed MTP/SCS as a result of future ground-disturbing activities related to planned transportation improvements, including new roads, interchanges, widenings, and rail transit alignments; to projected land use pattern, including residential and commercial construction; and during future ongoing operations.

PALEONTOLOGICAL RESOURCES

For paleontological resources, reviews of geologic maps and of the paleontological database maintained by the UCMP are the primary sources of information used to assess the paleontological sensitivity of the geologic units in the plan area of the proposed MTP/SCS. These records were reviewed on May 14, 2019 (UCMP 2019a, 2019b, 2019c, 2019d, 2019e, 2019f, 2019g). As noted in Section 7.2.7, paleontological potential refers to the likelihood that a rock unit would yield a unique or significant paleontological resource (SVP 2010). The limits of an entire rock unit, both areal and stratigraphic, define the extent of paleontological potential. The review indicates that, in general, geologic units sensitive for paleontological resources are widespread in the plan area, particularly in the Sacramento Valley and adjacent lower foothills.

The SVP has established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources (SVP 2010). These guidelines represent the accepted standard of care for paleontological resources. In accordance with these guidelines, assessments of the scientific significance of fossilized remains are based on whether they can provide data on the taxonomy and phylogeny of ancient organisms, the paleoecology and nature of paleo environments in the geologic past, or the stratigraphy and age of geologic units. Because most vertebrate fossils are rare, they are considered important paleontological resources. Conversely, marine invertebrates are generally common, the fossil record is well developed and well documented, and they would generally not be considered an important paleontological resource. Substantial damage to or destruction of significant paleontological resources as defined by the SVP (2010) would represent a significant impact.

The criteria outlined by the SVP screen the paleontological potential of rock units and establish assessment and mitigation procedures tailored to such potential. Based on professional judgment and the SVP guidelines, impacts have been assessed below at the program-level and take into consideration potential direct or indirect impacts that may occur to known and unknown paleontological resources in the plan area of the proposed MTP/SCS as a result of future ground-disturbing activities related to planned transportation improvements, including new roads, interchanges, widenings, and rail transit alignments; to proposed projected land use pattern, including residential and commercial construction; and during future ongoing operations.

The analysis assumes implementing agencies would ensure cultural, paleontological, and tribal cultural resources are treated in accordance with applicable federal, state and local laws and regulations as part of project planning, design and engineering.

7.4.2 Criteria for Determining Significance

For the purposes of this EIR, SACOG has determined that adoption and/or implementation of the proposed MTP/SCS would result in significant impacts under CEQA, if any of the following would occur:

- CR-1** Cause a substantial adverse change in the significance of a historical built environment resource pursuant to CEQA Guidelines Section 15064.5;
- CR-2** Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;

- CR-3** Directly or indirectly destroy a unique paleontological resource or site;
- CR-4** Disturb any human remains, including those interred outside of formal cemeteries;
- CR-5** 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:
 - i. Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
 - ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria set forth in Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe; and/or
- CR-6** Eliminate important examples of major periods of California history or prehistory pursuant to CEQA Guidelines Section 15065(a)(1).

A “historical resource” is a term with defined statutory meaning (includes any built environment resource, prehistoric or historic archaeological site, district, tribal cultural resource, or traditional cultural resource recognized as historically or culturally significant (PRC Section 21084.1; 14 CCR Section 15064.5[a])), potential impacts to historical resources of a built environment nature, historical resources of an archaeological nature, and tribal cultural resources are addressed separately in this EIR. While changes to the Appendix G of the State CEQA Guidelines were approved in December 2018 to separate paleontology from cultural resources for consistency with the 2016 MTP/SCS EIR, consideration of paleontological resources is retained in this chapter (SACOG 2016). Direct or indirect impacts to unique geologic features are addressed in Chapter 9 – Geology, Soils, Seismicity, and Mineral Resources.

7.4.3 Impacts and Mitigation Measures

IMPACT CR-1: CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF A HISTORICAL BUILT ENVIRONMENT RESOURCE PURSUANT TO CEQA GUIDELINES SECTION 15064.5.

Regional Impacts

This impact concerns potential direct and indirect impacts to historical built environment resources at the regional level. The bulk of potential impacts to historical built environment resources (i.e., historic buildings, structures, features, objects, districts, and landscapes) would likely occur during the construction of new land uses and new transportation improvements although new operational changes may also impact the historic character of these resources. The potential for future projects stemming from the proposed MTP/SCS to directly or indirectly impact historical built environment resources would, in general, vary by the development area type or location of transportation improvement. Historical built environment resources are more prevalent in areas that were initially developed more than 50 years ago, including historic downtown or main street areas such as downtown Sacramento, Auburn, and Placerville. Concentrations of historic buildings or structures and the presence of historic districts is thus more likely in Center and Corridor Communities than in Developing Communities, which are more likely to be located in previously undeveloped areas.

Although historical built environment resources may be more prevalent in older developed areas, they may be present in all Community Types. Outside of urban areas, examples of historical built environment resources include historic mines, rural residences and barns, roads, bridges, canals, and rural landscapes.

As presented in the setting section of this chapter, numerous historically significant built environment resources within the plan area of the proposed MTP/SCS are listed in the NRHP or CRHR, are recognized as eligible for listing in the NRHP or CRHR, or are recognized as historically significant by local governments, and thus meet the definition of a historical resource. It is likely there are additional historical built environment resources (i.e., historic buildings, structures, features, objects, districts, and landscapes) located in the plan area whose historic significance has not previously been assessed or documented. Built environment resources of historic importance that have recently achieved 50 years in age, or would soon achieve 50 years of age, that are located in urban settings or in less developed areas may not have been inventoried and thus may not be currently listed in federal, state, or local records.

This analysis identifies four potential areas where impacts to built environment historical resources could arise: direct permanent impacts resulting from construction, direct permanent impacts resulting from new operational changes, indirect permanent impacts resulting from new visual elements, and indirect temporary or permanent impacts resulting from noise and vibration associated with construction and operation of projects under the proposed MTP/SCS. Each of these areas is discussed below.

Direct permanent impacts by ground-disturbing and other activities associated with construction may include damage, physical demolition, destruction, relocation, or alteration of historical buildings or structures or the historic character of their physical surroundings, which could result in a substantial adverse change to historically significant built environment resources. In and around downtown city cores where historic districts may be located, construction may have a relatively higher potential to directly impact built environment historical resources. New highway or light rail segments through historic districts, for example, may constitute a significant impact if contributing elements to the district are directly or indirectly impacted, whereas improvements within existing rights-of-way are less likely to affect historical built environment resources.

Direct permanent impacts would be significant if a building or structure recognized as historically significant is removed or substantially modified in a manner inconsistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Grimmer 2017). If alterations of a historical built environment resource would cause that resource to lose its ability to convey its historic significance (e.g., removing distinctive bridge elements and/or features, altering the spatial relationship of contributing elements in a historic district or historic landscape, or changing the path of a historic railroad line), this direct impact may be addressed by design phase planning to ensure appropriate measures are devised in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* or *Historic Landscapes* (Birnbaum and Peters 1996; Grimmer 2017) that would minimize or reduce significant modifications to the historical resource's character-defining materials and features that could adversely impact the physical integrity of the built resource.

Permanent indirect impacts stemming from construction related to the projected land use pattern and planned transportation improvements or to ongoing operations by the introduction of new visual elements, such as elevated guideways, support columns, light rail platforms, or bridges, along

an established route or by new land uses or new transportation improvements may indirectly diminish the character of the setting that contributes to the historic significance of a historical built environment resource. These indirect impacts may be significant if incompatible with the historic character and viewshed of historical built environment resources. Indirect visual impacts may be addressed through design phase planning to ensure appropriate measures are devised in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* that would minimize or reduce permanent visual impacts that could adversely impact historical built environment resources.

Temporary or permanent indirect impacts could also arise due to noise or vibration levels from new construction and/or ongoing operations. Impacts could arise if the integrity of a built environment resource's significant historic features is diminished, the character of a building's physical features that contribute to its historic significance is changed, or the character of a building's historic use for noise-sensitive activities (e.g., theater, concert hall) is altered. Construction equipment, such as large bulldozers, pile drivers, or drill rigs, produce noise and vibration levels that may potentially have indirect adverse effects. New or expanded rail operations have the potential to result in substantial vibration and noise that could expose historic buildings or structures to excessive ground-borne vibrations or ground-borne noise, whereas vehicular traffic on roadways is rarely the source of vibration and ground-borne noise because vehicles are supported on spring suspension and pneumatic tires. If avoidance of a historical built environment resource is infeasible, these indirect impacts may also be addressed by design phase planning to ensure appropriate measures are devised in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* that would minimize or reduce significant noise or vibration levels that could adversely impact historical built resources.

Together, the potential direct regional impacts on historical built environment resources related to construction and operation of the projected land use pattern and planned transportation improvements that could result in modification or removal of a historical resource, and indirect impacts from new visual elements or from noise and vibration from construction projects and ongoing operations resulting from implementation of the proposed MTP/SCS are considered potentially significant (PS) for Impact CR-1. Mitigation is required. Mitigation Measure CR-1 is described below.

Localized Impacts

Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Communities

The localized impacts associated with implementation of the proposed MTP/SCS are the same in each of the Community Types as described in the regional impacts discussion above. Land use and transportation projects in Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Communities could potentially impact historical built environment resources due to direct impacts related to construction and operation of the projected land use pattern and proposed transportation improvements that could result in modification or removal of a historical resource, and indirect impacts from new visual elements or from noise and vibration from construction projects and ongoing operations.

Therefore, the potential direct and indirect localized impacts on historical built environment resources related to the projected land use pattern and planned transportation improvements from implementation of the proposed MTP/SCS are considered potentially significant (PS) for Impact CR-1. Mitigation is required. Mitigation Measure CR-1 is described below.

Lands Not Identified for Development in the Proposed MTP/SCS

Although some housing and employment growth, consistent with historical trends, may occur in this Community Type within the proposed MTP/SCS planning period, the proposed MTP/SCS does not forecast any the projected land use pattern in Lands Not Identified for Development in the proposed MTP/SCS by 2040. Therefore, potential local impacts on historical built environment resources related to the projected land use pattern from construction projects and ongoing operations resulting from implementation of the proposed MTP/SCS on Lands Not Identified for Development are considered less-than-significant (LS) for Impact CR-1. No mitigation is required.

The proposed MTP/SCS would make a limited number of planned transportation improvements in this Community Type by 2040. The focus for investments in these areas is on road maintenance, safety enhancements, other roadway operational improvements, and targeted capacity improvements to existing facilities that accommodate increased travel between urban areas. The localized impacts associated with implementation of transportation improvements in the proposed MTP/SCS are the same in Lands Not Identified for Development in the MTP/SCS as described in the regional impacts discussion above. Transportation projects in this area could potentially impact historical built environment resources due to direct impacts related to construction and operation of planned transportation improvements that could result in modification or removal of a historical resource, and indirect impacts from new visual elements or from noise and vibration from construction projects and ongoing operations. Therefore, the potential direct and indirect localized impacts on historical built environment resources related to planned transportation improvements from implementation of the proposed MTP/SCS on Lands Not Identified for Development are considered potentially significant (PS) for Impact CR-1. Mitigation is required. Mitigation Measure CR-1 is described below.

High Frequency Transit Area Impacts

Placer County, Sacramento County, and Yolo County High Frequency Transit Areas

As with the localized impacts discussed above, the HFTA impacts associated with implementation of the proposed MTP/SCS are the same in each of the HFTAs as described in the regional impacts discussion above. The projected land use pattern and planned transportation improvements in the HFTAs could potentially impact historical built environment resources due to direct impacts related to construction and operation of land use and planned transportation improvements that could result in modification or removal of a historical resource, and indirect impacts from new visual elements or from noise and vibration from construction projects and ongoing operations.

Therefore, the direct and indirect potential impacts in HFTAs on historical built environment resources related to the projected land use pattern and planned transportation improvements from implementation of the proposed MTP/SCS at the HFTA level are considered potentially significant (PS) for Impact CR-1. Mitigation is required. Mitigation Measure CR-1 is described below.

MITIGATION MEASURES

SACOG does not have authority to require the implementing agencies to adopt the identified mitigation measures; the mitigation measures are within the responsibility and jurisdiction of another public agency. However, implementation of the following mitigation measure at a project level would reduce the impacts to historical built environment resources, and agencies with jurisdiction to adopt these measures should do so (PRC Section 21081).

Mitigation Measure CR-1: Conduct project-specific historic built environment resource studies and identify and implement project-specific mitigation.

Measures that shall be implemented, where feasible and necessary to address site-specific impacts, include, but are not limited to, the following:

- As part of the project/environmental review of individual projects, a records search at the appropriate Information Center of the CHRIS and a review of literature and historic maps shall be conducted to determine whether the project area has been previously surveyed and whether historic built environment resources were identified.
- In the event the records indicate that no previous survey has been conducted within the last five years, a qualified architectural historian (36 CFR Section 61) shall conduct a study of the project area for the presence of historic built environment resources. The study shall include conducting a field survey, necessary background, archival and historic research, consultation with local historical societies, museums or other interested parties as relevant, and preparation of a Historic Resource Assessment Report. The report shall document the results of the survey and the historic context, evaluate the federal, state, or local significance of built environment resources greater than 45 years in age² that may potentially be directly or indirectly impacted by project activities, recommend appropriate protection or mitigative treatment, if any, and include recordation of identified built environment resources on appropriate California Department of Parks and Recreation (CDPR) series 523 forms. The final report and CDPR forms shall be filed by the architectural historian with the CHRIS. Recommended treatment for historical built environment resources identified in the report shall be implemented.
- If no significant historic built environment resources are identified in the Historic Resource Assessment Report or prior survey of the project study area that may be directly or indirectly impacted by project activities, then mitigation for built environment resources is complete, and there is no adverse change to documented historical built environment resources for the project.
- If significant historic built environment resources are identified in the Historic Resource Assessment Report or prior survey of the project study area, the project sponsor and/or implementing agency should consider avoidance as the primary mitigation measure. If avoidance is possible, mitigation to documented historical built environment resources is complete.
- If avoidance of a significant built environment resource is not feasible, then the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, or reconstruction of the historical resource, as recommended by a qualified architectural historian or historic architect (36 CFR Section 61) and conducted in a manner consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring, and Reconstructing Historic Buildings or Historic Landscapes* shall generally reduce impacts (Birnbaum and Peters 1996; Grimmer 2017). If adherence to the

² California's OHP recommends built environment resources constructed more than 45 years before the proposed start date of a project be considered during the evaluation process (OHP 1995). Early consideration before a resource reaches 50 years allows a sufficient period of time for project planning and design.

Secretary of the Interior's Standards cannot avoid materially altering in an adverse manner the physical characteristics or historic character of the surrounding environmental setting that contribute to a resource's historic significance, additional mitigation may be required.

- If avoidance of or minimization of substantial adverse effects to a significant built environment resource is not feasible through project design or by adherence to the *Secretary of the Interior's Standards*, the project sponsor and/or implementing agency should ensure that Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), or Historic American Landscapes Survey (HALS) documentation is completed prior to demolition or significant material alteration of the resource's physical characteristics or setting. The HABS, HAER, and HALS programs formally document historical resources through the use of large-format photography, measured drawings, written architectural descriptions, and historical narratives. The level of documentation required as mitigation and preparation of the HABS, HAER, or HALS shall be determined and prepared by a qualified architectural historian or historic architect (36 CFR Section 61). The documentation packages shall be archived in appropriate public and secure repositories. Such documentation would not reduce the impact to a less-than-significant level.

SIGNIFICANCE AFTER MITIGATION

If the implementing agency adopts this mitigation measure, Impact CR-1 may be reduced, but not to a less-than-significant level, because removal of a historically significant building or structure or the loss of character-defining features could still occur.

By implementation of this mitigation measure during project-level planning and design, direct impacts to historical built environment resources may be reduced to a less-than-significant (LS) level by avoidance or project redesign, by minimizing physical alterations, or by designing building use while retaining a property's historic character. The entire removal of a historically significant building or structure and/or the loss of character-defining features, however, would result in a significant and unavoidable (SU) direct impact. Indirect impacts to historical built environment resources may be reduced to a less-than-significant (LS) level by project-level planning designed to minimize or reduce permanent visual impacts and significant noise or vibration levels.

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, SACOG cannot require the implementing agency to adopt this mitigation measure, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation. Therefore, Impact CR-1 remains significant and unavoidable (SU) for purposes of this program-level review.

IMPACT CR-2: CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF AN ARCHAEOLOGICAL RESOURCE PURSUANT TO CEQA GUIDELINES SECTION 15064.5.

Regional Impacts

This impact concerns potential direct and indirect impacts to historical or unique archaeological resources at the regional level. Potential impacts to archaeological resources are more likely to occur during the construction of new land uses and new transportation improvements rather than during

ongoing operations, and may vary by the Community Type or location of the projected land use pattern or planned transportation improvements. Archaeological resources are more likely to have been destroyed within historic urbanized and commercial areas, namely the Center and Corridor Communities, although this does not preclude the presence in urban settings of buried archaeological resources that may be significant. A greater number of surficial and buried archaeological resources are more likely to have been previously documented in the Established Communities, particularly since the enactment of CEQA in 1970, and to be found and not yet documented within Developing Communities, which tend to be presently undeveloped.

As presented in the setting section of this chapter, numerous archaeological resources within the plan area of the proposed MTP/SCS are listed in the NRHP or CRHR, are recognized as eligible for listing in the NRHP or CRHR, are listed in local historical registers, or are recognized as historically significant by local governments, and thus meet the definition of a historical resource. According to the DOE and HPD master lists maintained by the OHP, there are more than 330 historical resources of an archaeological nature in the plan area of the proposed MTP/SCS. This total may not reflect additional archaeological sites that are included in local registers or are otherwise recognized as historically significant by local governments. Also, several of these prehistoric and historic archaeological sites may include human remains or are traditional cultural places. In addition, it is likely there are other prehistoric, ethnohistoric, and historic-period archaeological resources in the plan area of the proposed MTP/SCS that have not been documented or evaluated for listing in the NRHP, CRHR, or local registers, or that may be considered unique archaeological resources. Large portions of the plan area have not been subjected to archaeological survey and may contain significant archaeological resources, on the surface or at depth. Additionally, there are likely a considerable number of documented archaeological resources that have not yet been evaluated for eligibility for listing in the NRHP, CRHR, or local registers.

This analysis identifies three potential areas where impacts to archaeological resources could arise: direct permanent impacts resulting from construction, direct permanent impacts resulting from new operational changes, and indirect permanent impacts resulting from access-related damage associated with construction and operation of the projected land use pattern and planned transportation improvements under the proposed MTP/SCS. Each of these areas is discussed below.

Direct permanent impacts to significant archaeological resources may result from ground disturbance associated with construction, such as grading and excavation. The development of new transportation facilities, construction of additional lanes, or the projected land use pattern stemming from the proposed MTP/SCS may have a relatively higher potential to directly impact archaeological resources, primarily through excavation in previously undisturbed soil and the disturbance of buried resources that have not been previously identified. The potential for permanent direct impacts to historical and unique archaeological resources may be comparatively less for improvements to existing facilities and modifications to existing rights-of-way since these areas have been previously disturbed. Regardless of prior disturbance, however, excavation at depth has the potential to directly impact undocumented archaeological resources.

The buried nature of archaeological materials, deposits or features makes accurate prediction of their location during project planning difficult, resulting in their inadvertent discovery during project-related ground disturbance. The Sacramento Valley floodplains and the banks of rivers and large streams in the valley and adjacent foothills were occupied and used during the prehistoric,

ethnohistoric, and historic periods with the result that archaeological resources, including human remains, are widespread and numerous within the plan area of the proposed MTP/SCS. River and stream drainages were often the prime locations for Native American village sites or processing camps, and for mining camps, ranches and farms, towns, and streamside transportation networks during the historic period. Prehistoric sites frequently took the form of mounds raised above the natural ground surface, but the upper portions of many of these sites are no longer visible—destroyed by modern agricultural practices, land reclamation, dam and levee construction, hydraulic or dredge mining, or Euro-American settlement. Intermittent flooding has also deposited layers of alluvium and buried intact archaeological sites below grade with no surface manifestations. In the first decade of the 21st century, for example, Native American burials and artifacts were found from seven to 12 feet below the surface during construction for a section of light rail and for a new City Hall in downtown Sacramento. Features of historic-era archaeological sites, such as privies, trash pits, wells, foundations, and burials, have also been concealed by later land uses and discovered during subsequent development.

Direct permanent impacts would be significant if historical or unique archaeological resources cannot be avoided or preserved in place by project design or redesign and are destroyed or substantially altered. Disturbance of, damage to, or substantial alteration or removal of archaeological materials or features would compromise the physical integrity and information potential of an archaeological deposit. Disturbance may result in a significant impact if the resource is listed in or is eligible for listing in the NRHP, CRHR or local registers and its contributing physical characteristics or the character of its physical setting is destroyed or substantially altered. This permanent direct impact may be addressed by advance project planning to ensure known historical or unique archaeological resource are avoided and preserved in place, and by project-redesign to avoid and preserve significant archaeological resources discovered inadvertently during project construction.

Permanent indirect impacts from construction and operational improvements may result from potential access-related damage to archaeological resources when public accessibility is increased because of the projected land use pattern or planned transportation improvements of the proposed MTP/SCS. The likelihood of unauthorized artifact collecting and destruction (intentional or unintentional) of prehistoric, ethnohistoric, and historic archaeological sites or features increases with ease of access. Recreational use, overland vehicle travel, and vandalism of archaeological sites degrade the integrity of these resources and can affect their eligibility to the NRHP, CRHR, or local registers. Ensuring appropriate measures are devised during project planning that would minimize or reduce damage to historical or unique archaeological resources may reduce indirect access-related impacts.

Together, the potential direct regional impacts on historical or unique archaeological resources related to the projected land use pattern and planned transportation improvements that could result in substantial alteration or removal of an archaeological resource, and indirect regional impacts from access-related damage from construction projects and ongoing operations resulting from implementation of the proposed MTP/SCS are considered potentially significant (PS) for Impact CR-2. Mitigation is required. Mitigation Measures CR-2 and CR-3 are described below.

Localized Impacts

Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Communities

The localized impacts associated with implementation of the proposed MTP/SCS are the same in each of the Community Types as described in the regional impacts discussion above. Land use and transportation projects in Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Communities could potentially impact historical or unique archaeological resources due to direct impacts related to the projected land use pattern and planned transportation improvements that could result in substantial alteration or removal of an archaeological resource, and indirect impacts from access-related damage from construction projects and ongoing operations.

Therefore, the potential direct and indirect localized impacts on historical or unique archaeological resources related to the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS in the Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Community Types are considered potentially significant (PS) for Impact CR-2. Mitigation is required. Mitigation Measures CR-2 and CR-3 are described below.

Lands Not Identified for Development in the Proposed MTP/SCS

Although some housing and employment growth, consistent with historical trends, may occur in this Community Type within the MTP/SCS planning period, the proposed MTP/SCS does not forecast any development in these areas by 2040. Therefore, potential impacts on historical and unique archaeological resources related to the projected land use pattern from implementation of the proposed MTP/SCS on Lands Not Identified for Development are considered less-than-significant (LS) for Impact CR-2. No mitigation is required.

The proposed MTP/SCS would make a limited number of planned transportation improvements in this Community Type by 2040. The focus for investments in these areas is on road maintenance, safety enhancements, other roadway operational improvements, and targeted capacity improvements to existing facilities that accommodate increased travel between urban areas. The localized impacts associated with implementation of planned transportation improvements in the proposed MTP/SCS are the same in Lands Not Identified for Development in the MTP/SCS as described in the regional impacts discussion above. Transportation projects in this area could potentially impact historical or unique archaeological resources due to direct impacts related to land use and planned transportation improvements that could result in substantial alteration or removal of an archaeological resource, and indirect impacts from access-related damage from construction projects and ongoing operations. Therefore, the potential local impacts on historical and unique archaeological resources related to planned transportation improvements from implementation of the proposed MTP/SCS on Lands Not Identified for Development are considered potentially significant (PS) for Impact CR-2. Mitigation is required. Mitigation Measures CR-2 and CR-3 are described below.

High Frequency Transit Area Impacts

Placer County, Sacramento County, and Yolo County High Frequency Transit Areas

As with the localized impacts discussed above, the HFTA impacts associated with implementation of the proposed MTP/SCS are the same in each of the HFTAs as described in the regional impacts

discussion above. The projected land use pattern and planned transportation improvements in the HFTAs could potentially impact historical or unique archaeological resources due to direct impacts related to land use and planned transportation improvements that could result in substantial alteration or removal of an archaeological resource, and indirect impacts from access-related damage from construction projects and ongoing operations.

Therefore, the potential direct and indirect impacts in HFTAs on historical or unique archaeological resources related to the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS at the HFTA level are considered potentially significant (PS) for Impact CR-2. Mitigation is required. Mitigation Measures CR-2 and CR-3 are described below.

MITIGATION MEASURES

SACOG does not have authority to require the implementing agencies to adopt the identified mitigation measures; the mitigation measures are within the responsibility and jurisdiction of another public agency. However, implementation of the following mitigation measures at a project level would reduce the impacts to historical or unique archaeological resources, and agencies with jurisdiction to adopt these measures should do so (PRC Section 21081).

Mitigation Measure CR-2: Conduct project-specific archaeological resource studies and identify and implement project-specific mitigation.

Measures that shall be implemented, where feasible and necessary to address site-specific impacts, include, but are not limited to, the following:

- As part of the appropriate project/environmental review of individual projects, the NAHC shall be consulted to determine whether known sacred sites are in the project area, and to identify Native Americans to contact to obtain information about the project area and relevant areas of cultural sensitivity. Additional consultation with relevant tribal representatives may be appropriate regarding known prehistoric sites, traditional cultural places, TCPs, project areas deemed highly sensitive for prehistoric or ethnohistoric resources, or where avoidance of impacts to prehistoric or ethnohistoric resources may be infeasible.
- A records search at the appropriate Information Center of the CHRIS shall be conducted by a qualified archaeologist (36 CFR Section 61) as part of the appropriate project/environmental review of individual projects to determine whether the project area has been previously surveyed and whether archaeological resources were identified.
- In the event the records indicate that no previous survey has been conducted or the survey did not meet current professional standards or regulatory guidelines, the qualified archaeologist (36 CFR Section 61) or the Information Center shall make a recommendation on whether a survey is warranted based on the sensitivity of the project area for archaeological resources and current professional standards or regulatory guidelines.
- If a survey is considered warranted, the archaeological study of the project area by a qualified archaeologist shall include conducting a field survey, necessary background research, a Sacred Lands search by the NAHC and consultation with local Native Americans identified by the NAHC, consultation with local historical societies, museums or other interested

parties as relevant, and an Archaeological Survey Report. The confidential report shall document the results of the survey and the cultural context, assess the federal, state, or local significance of prehistoric, traditional, or historic-era archaeological resources that may potentially be directly or indirectly impacted by project activities, provide appropriate management recommendations, and include recordation of identified archaeological resources on appropriate California DPR series 523 forms. Management recommendations may include but not be limited to additional studies to evaluate identified sites, treatment for documented historical resources, or archaeological monitoring during ground-disturbing construction activities at locations determined by the archaeologist to be sensitive for subsurface cultural resource deposits, including local Native American monitors if sensitive for prehistoric resources. The final confidential report and DPR forms would be filed by the archaeologist with the CHRIS. Recommended treatment for historical resources identified in the report should be implemented.

- If no archeological resources are identified in the Archeological Survey Report that may be directly or indirectly impacted by project activities, mitigation is complete as there would be no adverse change to documented archeological resources.
- When a project would impact a known archaeological site, the project sponsor and/or implementing agency shall determine whether the site is a historical resource (CEQA Guidelines Section 15064.5(c)(1)). If archaeological resources identified in the project area are considered potentially significant, the project sponsor and/or responsible implementing agency shall undertake additional studies overseen by a qualified archaeologist (36 CFR Section 61) to evaluate the resources eligibility for listing in the CRHR, NRHP, or local register and to recommend further mitigative treatment. Evaluations shall be based on, but not limited to, surface remains, subsurface testing, or archival and ethnographic resources, on the framework of the historic context and important research questions of the project area, and on the integrity of the resource. If a site to be tested is prehistoric, local tribal representatives should be afforded the opportunity to monitor the ground-disturbing activities. Appropriate mitigation may include curation of artifacts removed during subsurface testing.
- If significant archaeological resources that meet the definition of historical or unique archaeological resources are identified in the project area, the preferred mitigation of impacts is preservation in place (CEQA Guidelines Section 15126.4(b); PRC Section 21083.2). Preservation in place may be accomplished by, but is not limited to, avoidance by project design, incorporation within parks, open space or conservation easements, covering with a layer of sterile soil, or similar measures. If preservation in place is feasible, mitigation is complete. Additionally, where the implementing agency determines that an alternative mitigation method is superior to in-place preservation, the project sponsor and/or implementing agency may implement such alternative measures.
- When preservation in place or avoidance of historical or unique archaeological resources are infeasible, data recovery through excavation shall be required (CEQA Guidelines Section 15126.4(b)). Data recovery would consist of approval of a Data Recovery Plan and archaeological excavation of an adequate sample of site contents so that research questions applicable to the site can be addressed. For prehistoric sites, local tribal representatives should be afforded the opportunity to monitor the ground-disturbing activities. If only part of a site would be impacted by a project, data recovery shall only be necessary for that portion of the site. Data recovery shall not be required if the implementing agency

determines prior testing and studies have adequately recovered the scientifically consequential information from the resources. Confidential studies and reports resulting from the data recovery shall be deposited with the appropriate CHRIS 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 or the provisions of NAGPRA on federal or tribal lands. Mitigation may include curation for artifacts removed during data recovery excavation.

- If archaeological resources are discovered during construction, all work near the find shall be halted and the project sponsor and/or implementing agency shall follow the steps described under CEQA Guidelines Section 15064.5(f), including an immediate evaluation of the find by a qualified archaeologist (36 CFR Section 61) and implementation of avoidance measures or appropriate mitigation if the find is determined to be a historical resource or unique archaeological resource. Consultation with or affording local tribal representatives the opportunity to monitor mitigative treatment may be appropriate. Should the find include human remains, the remains shall be treated in accordance with the provisions of Section 7050.5 of the Health and Safety Code or the provisions of NAGPRA on federal or tribal lands. During evaluation or mitigative treatment, ground disturbance and construction work could continue on other parts of the project area.

Mitigation Measure CR-3: Reduce visibility or accessibility of historical or unique archaeological resources.

The project sponsor and/or implementing agency shall determine whether or not implementation of a project would indirectly impact historical or unique archaeological resources by increasing public visibility and ease of access. If so, the project sponsor and/or implementing agency shall take measures to reduce the visibility or accessibility of the historical or unique archaeological resource to the public. Visibility of the resource can be reduced through the use of decorative walls or vegetation screening. Accessibility can be reduced by installing fencing or vegetation barriers, particularly noxious vegetation such as poison oak or blackberry bushes. It is important to avoid creating an attractive nuisance when protecting significant archaeological sites. Conspicuous walls or signs indicating that an area is restricted may result in more attempts to access the excluded area.

SIGNIFICANCE AFTER MITIGATION

If the implementing agency adopts these mitigation measures, Impact CR-2 may be reduced, but not to a less-than-significant (LS) level, because destruction or substantial alteration of the contributing physical characteristics or character of the physical setting of a historical or unique archaeological resource could still occur.

By implementation of these mitigation measures, direct impacts to historical or unique archaeological resources may be reduced to a less-than-significant (LS) level by avoiding or preserving in place known historical or unique archaeological resources through project design, and by avoiding or preserving inadvertent discoveries of significant archaeological resources through project redesign. If avoidance or preserving in place is infeasible, direct impacts may be reduced to a less-than-significant (LS) level by minimizing disturbance or undertaking additional investigation to determine the significance and integrity of the portion of the archaeological resource within the project area. The destruction or substantial alteration of the contributing physical characteristics or

character of the physical setting of a historical or unique archaeological resource, however, would result in a significant and unavoidable (SU) direct impact. Indirect impacts to historical or unique archaeological resources may be reduced to a less-than-significant (LS) level by project-level planning designed to reduce public visibility and accessibility.

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 likely reduce the impact to less than significant. However, SACOG cannot require the implementing agency to adopt this mitigation measure, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation. Therefore, Impact CR-2 remains significant and unavoidable (SU) for purposes of this program-level review.

IMPACT CR-3: DIRECTLY OR INDIRECTLY DESTROY A UNIQUE PALEONTOLOGICAL RESOURCE OR SITE.

Regional Impacts

This impact concerns potential impacts to paleontological resources at the regional level. The potential to impact paleontological resources within the plan area of the proposed MTP/SCS does not, in general, vary by the Community Type or location of planned transportation improvements as paleontological resources may be present due to the presence of sensitive geological units, not due to the overlying land use. Although surficial paleo-resources may have been disturbed and obscured in previously developed areas or in agricultural areas, this does not preclude the potential for buried paleontological resources that generally increases with depth.

As discussed in the setting section of this chapter, geologic units considered sensitive for paleontological resources are widespread in the plan area of the proposed MTP/SCS, particularly in the Sacramento Valley and adjacent lower foothills. These units, which preserve a rich vertebrate fauna, include the Pleistocene-aged Riverbank and Modesto formations, the Tehama Formation of Pliocene age, and the Pliocene/late Miocene-aged Mehrten Formation. The limestone cave deposits of the Calaveras Formation are also highly sensitive for vertebrate fossils, as is the Pliocene/Miocene-aged Sutter Formation, whereas the Eocene-aged Capay Formation is sensitive for marine fossils.

Depending on location, rock units sensitive for paleontological resources may be exposed on the surface by fluvial actions or as outcrops, found at depth beneath younger sediments, or found beneath only a thin veneer of surficial soils or Holocene fan or alluvial deposits. During excavations for the Arco Arena (now Sleep Train Arena) in Sacramento in 1989, for example, a significant number of Pleistocene-aged fossilized vertebrate genera, including mammoths, were recovered from the Riverbank Formation at a minimum depth of 12 feet. In contrast, additional fossils of Columbian mammoths found in the Riverbank Formation were discovered exposed along Putah Creek near the City of Davis in 1975 and uncovered only three feet below the surface during trenching in 2004 for an underground pipeline near the City of Elk Grove.

Potential impacts to paleontological resources would be more likely to occur from ground-disturbing activities associated with land use and transportation improvement changes rather than during ongoing operations. Land use or transportation improvement operations from implementation of

the proposed MTP/SCS would not cause any ground-disturbing activities or destruction of paleontological resources.

Direct permanent impacts to paleontological resources from the projected land use pattern and planned transportation improvements as a result of the proposed MTP/SCS may result from ground disturbance associated with construction. Ground-disturbing activities such as excavation for building foundations and bridges, trenching for utility lines, tunneling, and grading, could damage or destroy sensitive paleontological resources on or near the surface or at depth. Construction in previously undisturbed areas and deep excavation activities would have the greatest probability to impact intact buried paleoresources. The potential for direct impacts to paleoresources may be comparatively less for improvements to existing facilities and modifications to existing rights-of-way since these areas have been previously disturbed. However, any construction in geologic units sensitive for paleontological resources could result in potentially significant damage to or destruction of unique paleontological resources.

Direct permanent impacts may arise if paleontological resources cannot be completely avoided by project design. Substantial damage to or destruction of significant paleontological resources as defined by the SVP (2010) would represent a significant impact. Excavation of the sediments and any significant fossils could destroy or degrade the condition of the fossils; additionally, the nature of project excavation would cause any fossils to be removed from their stratigraphic context, thereby reducing the scientific usefulness of the fossil. The extensive distribution and presence of rock units below the ground surface that may contain significant fossilized remains makes it difficult to predict the location of paleontological resources during the project planning phase, and thus increases the likelihood of inadvertent discovery of significant paleontological resources during construction and ground-disturbing activities.

Together, the potential direct regional impacts on paleontological resources related to the projected land use pattern and planned transportation improvements that could result in substantial alteration or removal of a significant paleontological resource from construction activities and ongoing operations resulting from implementation of the proposed MTP/SCS are considered potentially significant (PS) for Impact CR-3. Mitigation is required. Mitigation Measure CR-4 is described below.

Localized Impacts

Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Communities

The localized impacts associated with implementation of the proposed MTP/SCS are the same in each of the Community Types as described in the regional impacts discussion above. The projected land use pattern and planned transportation improvements in Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Communities could potentially impact paleontological resources due to direct impacts related to land use and transportation improvements that could result in substantial alteration or removal of a significant paleontological resource from construction projects and ongoing operations.

Therefore, potential local impacts on paleontological resources related to the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS in the Center and Corridor Communities, Established Communities, Developing

Communities, and Rural Residential Communities Community Types are considered potentially significant (PS) for Impact CR-3. Mitigation is required. Mitigation Measure CR-4 is described below.

Lands Not Identified for Development in the Proposed MTP/SCS

Although some housing and employment growth, consistent with historical trends, may occur in this Community Type within the proposed MTP/SCS planning period, the proposed MTP/SCS does not forecast any the projected land use pattern in Lands Not Identified for Development in the proposed MTP/SCS by 2040. Therefore, potential local impacts on paleontological resources related to the projected land use pattern from implementation of the proposed MTP/SCS on Lands Not Identified for Development in the proposed MTP/SCS are considered less-than-significant (LS) for Impact CR-3. No mitigation is required.

The proposed MTP/SCS would make a limited number of planned transportation improvements in this Community Type by 2040. The focus for investments in these areas is on road maintenance, safety enhancements, other roadway operational improvements, and targeted capacity improvements to existing facilities that accommodate increased travel between urban areas. The localized impacts associated with implementation of transportation improvements in the proposed MTP/SCS are the same in Lands Not Identified for Development in the MTP/SCS as described in the regional impacts discussion above. Transportation projects in this area could potentially impact paleontological resources due to direct impacts related to planned transportation improvements that could result in substantial alteration or removal of a significant paleontological resource from construction projects and ongoing operations. Therefore, potential local impacts on paleontological resources related to transportation improvements from implementation of the proposed MTP/SCS on Lands Not Identified for Development are considered potentially significant (PS) for Impact CR-3. Mitigation is required. Mitigation Measures CR-4 is described below.

High Frequency Transit Area Impacts

Placer County Sacramento County, and Yolo County High Frequency Transit Areas

As with the localized impacts discussed above, the HFTA impacts associated with implementation of the proposed MTP/SCS are the same in each of the HFTAs as described in the regional impacts discussion above. The projected land use pattern and planned transportation improvements in the HFTAs could potentially impact paleontological resources due to direct impacts related to land use and planned transportation improvements that could result in substantial alteration or removal of a significant paleontological resource from construction projects and ongoing operations.

Therefore, the potential impacts in HFTAs on paleontological resources related to the projected land use pattern and planned transportation improvements from implementation of the proposed MTP/SCS are considered potentially significant (PS) for Impact CR-3. Mitigation is required. Mitigation Measure CR-4 is described below.

MITIGATION MEASURES

SACOG does not have authority to require the implementing agencies to adopt the identified mitigation measures; the mitigation measures are within the responsibility and jurisdiction of another public agency. However, implementation of the following mitigation measure at a project level would reduce the impacts to unique paleontological resources, and agencies with jurisdiction to adopt these measures should do so (PRC Section 21081).

Mitigation Measure CR-4: Conduct project-specific paleontological resource studies and identify and implement mitigation.

Measures that shall be implemented, where feasible and necessary to address site-specific impacts, include but are not limited to:

- The fossil yielding potential of the project area shall be determined by initially identifying the aerial and stratigraphic extents of the local geology, and then by performing a site-specific search of fossil locality records and peer-reviewed literature, as appropriate, by a qualified professional paleontologist, established state clearinghouse such as the UCMP, and/or by an established paleontological repository. A field survey by a qualified professional paleontologist to assess the paleontological sensitivity of the project area may be warranted if the preliminary review is inconclusive.
- If a project area is found to contain or be in the near vicinity of previously identified paleoresources, or to be located within an area of high, moderate, or undetermined paleontological resource sensitivity, the project sponsor and/or implementing agency shall retain a qualified professional paleontologist prior to construction to conduct a survey, as warranted, to locate surface fossil concentrations and to assess the sensitivity of the project area for unique paleontological resources. After completion of the survey, the qualified paleontologist shall complete a technical report documenting the results of all work, and include any mitigation recommendations specific to the project. This study shall comply with standards in the industry such as the Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontological Resources and applicable regulations (SVP 2010).
- If the study indicates the project area is located in an area rich with paleontological resources, the study may recommend that the project sponsor and/or implementing agency retain a qualified paleontologist to prepare a Paleontology Mitigation Plan and monitor subsurface disturbance, such as grading, excavation, and trenching. Construction protocols to ensure that contractors take appropriate measures to avoid destroying fossil materials discovered during construction shall also be established by the project sponsor and/or implementing agency.
- Any area of known unique paleontological resources within a project area shall be avoided during construction if feasible. If avoidance of known resources is infeasible or a project has been identified as potentially directly or indirectly impacting, damaging or destroying a unique paleontological resource, treatment measures for nonrenewable unique paleontological resources may include appropriate documentation and/or salvage measures for fossils, microfossils, or matrix in consultation with the project sponsor and/or implementing agency. Treatment shall comply with regulatory requirements. Measures may include plans for sampling and data recovery. All final documentation of mitigation treatment for paleontological resources to be impacted by the project shall be approved by the project sponsor and/or implementing agency prior to the initiation of any project ground-disturbing activities.
- If fossils or other paleontological resources are encountered during construction, all work shall be halted within a minimum 30-foot radius of the find and a qualified paleontologist shall be contacted to examine the find and evaluate its significance. If the find is deemed to have significant scientific value, the paleontologist and the project sponsor and/or

implementing agency shall coordinate with the property owner to formulate a plan to either avoid impacts, document the resource, or to continue construction without disturbing the integrity of the find (e.g., by excavating the material containing the resources). Consistent with regulatory requirements, recommendations determined by the qualified professional paleontologist, project sponsor, and/or implementing agency to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered.

SIGNIFICANCE AFTER MITIGATION

If the implementing agency adopts this mitigation measure, Impact CR-3 may be reduced, but not to a less-than-significant level, because destruction of or substantial damage to a scientifically significant paleontological resource could still occur.

By implementation of this mitigation measure, direct impacts to paleontological resources may be reduced to a less-than-significant (LS) level by avoiding a paleontological resource, by minimizing disturbance and/or investigation of an inadvertent discovery, by pre-construction surface salvage of significant paleontological resources, or by recovering resources and data about the resources when avoidance is infeasible. The destruction of or substantial damage to a scientifically significant paleontological resource, however, would be a significant and unavoidable (SU) direct impact.

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 likely reduce the impact to less than significant. However, SACOG cannot require the implementing agency to adopt this mitigation measure, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation. Therefore, Impact CR-3 remains significant and unavoidable (SU) for purposes of this program-level review.

IMPACT CR-4: DISTURB ANY HUMAN REMAINS, INCLUDING THOSE INTERRED OUTSIDE OF FORMAL CEMETERIES.

Regional Impacts

This impact concerns potential impacts to human remains, including Native American remains, at the regional level. As discussed below, potential impacts to human remains, including remains that may not be interred in marked, formal burial locations, would be limited to construction; no post-construction, operational impacts are expected.

The six-county plan area of the proposed MTP/SCS has been inhabited by humans for at least 10,000 years and the remains of indigenous Californians and non-Native Americans have been discovered throughout this region outside of formal cemeteries. It is not always possible to predict where undocumented human remains may occur outside of formal cemeteries. As discussed under Impact CR-2, archaeological sites, including sites with human remains, have been buried by alluvial deposition and also truncated or buried during the historic period by agricultural practices, land reclamation, dam and levee construction, hydraulic or dredge mining, and Euro-American settlement. Archaeological sites and Native American burials and associated artifacts that have been buried below grade have no surface manifestations. Prehistoric, ethnohistoric, and historic-era

archaeological sites all have the potential to include human remains. Sites with human remains are highly important and are typically considered to be significant.

It is possible that excavation and project-related construction activities from the projected land use pattern and planned transportation improvements as a result of the proposed MTP/SCS may inadvertently impact human remains and associated grave goods not interred in cemeteries or marked, formal burial locations. The potential for inadvertent discovery of human remains may vary by Community Type or location of transportation improvements. The potential for discovery may be higher in areas with little previous disturbance, in previously undisturbed areas, or in areas where alluvial sediments have covered and preserved them, but excavation and other ground-disturbing activities, irrespective of depth, have the potential to encounter human remains.

As discussed in the regulatory setting discussion above and repeated under the methods and assumptions section of this chapter, state and federal regulations set forth specific requirements to address the inadvertent discovery of human remains.

Together, potential impacts on human remains from construction projects and ongoing operations related to the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS are considered less-than-significant (LS) for Impact CR-4 since the implementing agencies are responsible for complying with state and federal regulations regarding human remains. No mitigation is required.

Localized Impacts

Center and Corridor Communities, Established Communities, Developing Communities, Rural Residential Communities, and Lands Not Identified for Development in the Proposed MTP/SCS

The localized impacts associated with implementation of the proposed MTP/SCS are the same in each of the Community Types as described in the regional impacts discussion above. Land use and transportation projects in Center and Corridor Communities, Established Communities, Developing Communities, Rural Residential Communities, and Lands Not Identified for Development in the MTP/SCS are required to comply with state and federal regulations regarding human remains.

Therefore, potential local impacts on human remains related to the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS in the Center and Corridor Communities, Established Communities, Developing Communities, Rural Residential Communities, and Lands Not Identified for Development Community Types are considered less-than-significant (LS) for Impact CR-4. No mitigation is required.

High Frequency Transit Area Impacts

Placer County, Sacramento County, and Yolo County High Frequency Transit Area s

As with the localized impacts discussed above, the HFTA impacts associated with implementation of the proposed MTP/SCS are the same in each of the HFTAs as described in the regional impacts discussion above. The projected land use pattern and planned transportation improvements in the HFTAs are required to comply with state and federal regulations regarding human remains.

Therefore, potential impacts in HFTAs on human remains related to the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS level are considered less-than-significant (LS) for Impact CR-4. No mitigation is required.

MITIGATION MEASURES

None required.

IMPACT CR-5: CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF A TRIBAL CULTURAL RESOURCE.

Regional Impacts

This impact concerns potential direct and indirect impacts to TCRs at the regional level. Potential impacts to TCRs would be more likely to occur during the construction of new land uses changes and new transportation improvements rather than during ongoing operations, and may vary by the Community Type or location of the projected land use pattern or planned transportation improvements. TCRs are more likely to have been destroyed within historic urbanized and commercial areas; namely the Center and Corridor Communities, although this does not preclude the presence in urban settings of buried archaeological resources that may meet the definition of a TCR. A greater number of surficial TCRs and buried archaeological TCRs are more likely to have been previously documented as traditional cultural places, sacred sites, or archaeological sites in the Established Communities, and to be found and not yet documented within Developing Communities, which tend to be presently undeveloped.

As discussed in the setting section of this chapter, the NAHC maintains a confidential inventory of California Native American sacred sites. An unknown number of these sites may meet the TCR definition. An unknown number of sacred sites or TCRs may also be included on the DOE and HPD master lists maintained by the OHP of significant archaeological resources in the plan area of the proposed MTP/SCS. In addition, it is likely there are other TCRs in the plan area that have not been documented or evaluated. Large portions of the plan area have not been subjected to cultural resource survey and may contain TCRs. Additionally, there are likely a number of documented archaeological resources that have not been evaluated as TCRs.

This analysis identifies three potential areas where impacts to TCRs could arise: direct permanent impacts resulting from construction, direct permanent impacts resulting from new operational changes, and indirect permanent impacts resulting from access-related damage associated with construction and operation of projects under the proposed MTP/SCS. Each of these areas is discussed below.

Direct permanent impacts to TCRs may result from ground disturbance associated with construction, such as grading and excavation, for the projected land use pattern and planned transportation improvements stemming from the proposed MTP/SCS. The development of new transportation facilities, construction of additional lanes, or the projected land use pattern stemming from the proposed MTP/SCS may have a relatively higher potential to directly impact TCRs, primarily by grading or excavation in previously undisturbed soil and by the disturbance of buried resources that have not been previously identified. The potential for direct impacts to TCRs may be comparatively less for improvements to existing facilities and modifications to existing rights-of-way since these areas

have been previously disturbed. Regardless of prior disturbance, however, excavation at depth has the potential to directly impact undocumented TCRs of an archaeological nature.

As discussed under Impact CR-2, archaeological sites in the plan area of the proposed MTP/SCS, including those that may meet the TCR definition, have been buried by alluvial deposition and have also been truncated or buried during the historic period by agricultural practices, land reclamation, dam and levee construction, hydraulic or dredge mining, and Euro-American settlement. Archaeological sites that may meet the TCR definition that have been buried below grade have no surface manifestations, making accurate prediction of their location during project planning problematic.

Direct permanent impacts would be significant if TCRs cannot be avoided or preserved in place by project design or redesign and are destroyed or substantially altered. Disturbance of TCR features or places would compromise the traditional use of or the cultural character and integrity of the resource and may result in a significant impact if its contributing characteristics or the character of its physical setting is destroyed or substantially altered. Permanent direct impacts may be addressed by advance project planning and consulting with tribes that have requested consultation to ensure known TCRs are avoided and preserved in place, or to develop project alternatives that would minimize impacts to known TCRs. Permanent direct impacts to TCRs of an archaeological nature discovered inadvertently during project construction may be addressed by project redesign to avoid and preserve the TCR, and by requested tribal consultation focused at minimizing the impact.

Permanent indirect impacts from construction and operational improvements may result from potential access-related damage to TCRs when public accessibility is increased because of the projected land use pattern or new or improved transportation networks stemming from the proposed MTP/SCS. The likelihood of unauthorized artifact collecting and destruction (intentional or unintentional) of TCRs of an archaeological nature, or of damage to or destruction (intentional or unintentional) of TCRs that are traditional places for gathering natural resources, cultural landscapes or sacred places increases with ease of access. Recreational use, overland vehicle travel, and vandalism would degrade the integrity and traditional use of the TCRs. Ensuring appropriate measures that would minimize or reduce damage to TCRs are devised during project planning, coupled with requested tribal consultation, may reduce indirect access-related impacts.

Lead agencies are required, where feasible and necessary to address site-specific impacts, to engage in the following consultation procedures to minimize potential impacts to TCRs:

- The implementing agency shall begin consultation with a California Native American tribe traditionally and culturally affiliated with the project area prior to the release of a Negative Declaration (ND), Mitigated Negative Declaration (MND), or EIR if: (1) the tribe requested in writing to be formally informed of projects in the tribe's traditionally and culturally affiliated area; and (2) the tribe responds, in writing, within 30 days after formal notification from the implementing agency and requests consultation (PRC Section 21080.3.1(b)).
- Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project: the implementing agency shall again formally notify tribes who have requested to be contacted and notify them in writing of the proposed project within their traditionally and culturally affiliated area. Consultation shall occur if a tribe responds to the formal notification by requesting consultation in writing within 30 days.

The implementing agency shall begin the consultation process within 30 days of receiving a tribe's request (PRC Section 21080.3.1(d-e)).

- When a tribe requests consultation regarding alternatives to a project, recommended mitigation measures, or significant effects, then the consultation by the implementing agency shall include those topics. Consultation topics may also include the type of environmental review necessary, the significance of TCRs, the significance of the project's impacts on TCRs, project alternatives that would minimize or avoid impacts to TCRs, or appropriate mitigation or preservation measures that the tribe may recommend to the implementing agency. Consultation shall conclude with agreement on measures to mitigate or avoid a significant effect, if a significant effect exists, on a TCR or, after acting in good faith and after a reasonable effort, a party concludes that mutual agreement cannot be reached (PRC Section 21080.3.2).
- If the project may have a significant impact on a TCR, the implementing agency's environmental document shall discuss the impact and whether feasible alternatives or mitigation measures avoid or substantially lessen the impact on the TCR (PRC Section 21082.3).
- Any information, including, but not limited to, the location, description, and use of TCRs, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the implementing agency or any other public agency to the public, without the prior consent of the tribe that provided the information. If the implementing agency publishes any information submitted by a tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public (PRC Section 21082.3(c)).
- The public agency shall, when feasible, avoid damaging effects to any TCR (PRC Section 21084.3).

The implementing agency may certify an EIR or adopt a ND or MND if: the California Native American tribe traditionally and culturally affiliated with the project area has requested consultation but has failed to provide comments to the implementing agency, or otherwise failed to engage in the consultation process; the tribe has failed to request consultation within 30 days after formal notification of the project by the implementing agency; or after acting in good faith and after a reasonable effort, a party concludes that a mutual agreement cannot be reached on measures to mitigate or avoid a significant effect on a TCR (PRC Section 21082.3(d)).

While there are state requirements in place to minimize adverse impacts to TCRs, there is still the potential for access-related damage associated with construction and operation of projects under the proposed MTP/SCS. Therefore, the potential direct regional impacts on TCRs related to the projected land use pattern and planned transportation improvements that could result in substantial alteration or removal of a TCR, and indirect impacts from access-related damage from construction projects and ongoing operations resulting from implementation of the proposed MTP/SCS are considered potentially significant (PS) for Impact CR-5. Mitigation is required. Mitigation Measures CR-5 and CR-6 are described below.

Localized Impacts

Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Communities

The localized impacts associated with implementation of the proposed MTP/SCS are the same in each of the Community Types as described in the regional impacts discussion above. Land use and transportation projects in Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Communities could potentially impact TCRs due to direct impacts related to land use and planned transportation improvements that could result in substantial alteration or removal of a TCR, and indirect impacts from access-related damage from construction projects and ongoing operations.

Therefore, the potential direct and indirect impacts on TCRs related to the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS in the Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Communities Community Types are considered potentially significant (PS) for Impact CR-5. Mitigation is required. Mitigation Measures CR-5 and CR-6 are described below.

Lands Not Identified for Development in the Proposed MTP/SCS

Although some housing and employment growth, consistent with historical trends, may occur in this Community Type within the MTP/SCS planning period, the proposed MTP/SCS does not forecast any development in these areas by 2040. Therefore, potential impacts on TCRs related to the projected land use pattern from implementation of the proposed MTP/SCS on Lands Not Identified for Development are considered less-than-significant (LS) for Impact CR-5. No mitigation is required.

The proposed MTP/SCS would make a limited number of planned transportation improvements in this Community Type by 2040. The focus for investments in these areas is on road maintenance, safety enhancements, other roadway operational improvements, and targeted capacity improvements to existing facilities that accommodate increased travel between urban areas. The localized impacts associated with implementation of transportation improvements in the proposed MTP/SCS are the same in Lands Not Identified for Development in the MTP/SCS as described in the regional impacts discussion above. Transportation projects in this area could potentially impact TCRs due to direct impacts related to planned transportation improvements that could result in substantial alteration or removal of a TCR, and indirect impacts from access-related damage from construction projects and ongoing operations. Therefore, the potential impacts on TCRs related to planned transportation improvements resulting from implementation of the proposed MTP/SCS on Lands Not Identified for Development are considered potentially significant (PS) for Impact CR-5. Mitigation is required. Mitigation Measures CR-5 and CR-6 are described below.

High Frequency Transit Area Impacts

Placer County, Sacramento County, and Yolo County High Frequency Transit Areas

As with the localized impacts discussed above, the HFTA impacts associated with implementation of the proposed MTP/SCS are the same in each of the HFTAs as described in the regional impacts discussion above. Land use and transportation projects in the HFTAs could potentially impact TCRs due to direct impacts related to land use and planned transportation improvements that could result

in substantial alteration or removal of a TCR, and indirect impacts from access-related damage from construction projects and ongoing operations.

Therefore, the potential direct and indirect impacts on TCRs in HFTAs related to the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS are considered potentially significant (PS) for Impact CR-5. Mitigation is required. Mitigation Measures CR-5 and CR-6 are described below.

MITIGATION MEASURES

SACOG does not have authority to require the implementing agencies to adopt the identified mitigation measures; the mitigation measures are within the responsibility and jurisdiction of another public agency. However, implementation of the following mitigation measures at a project level would reduce the impacts to TCRs, and agencies with jurisdiction to adopt these measures should do so (PRC Section 21081).

Mitigation Measure CR-5: Conduct project-specific consultation with traditionally and culturally affiliated California Native American tribes to identify tribal cultural resources and implement project-specific mitigation.

If the implementing agency determines that a project may cause a substantial adverse change to a TCR, and measures are not otherwise identified in the consultation process under PRC Section 21080.3.2, the following mitigation measures described at PRC Section 21084.3 shall be implemented, where feasible and necessary, to address site-specific impacts in order to avoid or minimize the significant adverse impacts:

- Avoidance and preservation of the TCRs in place, including, but not limited to, planning and construction 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 TCR with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to: protecting the cultural character and integrity of the resource; or protecting the traditional use of the resource; protecting the confidentiality of the resource;
- Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places; or
- Protecting the resource.

Mitigation Measure CR-6: Reduce visibility or accessibility of tribal cultural resources.

Measures that shall be implemented for projects that have an ND, MND, or EIR include:

- The project sponsor and/or implementing agency shall determine whether or not implementation of a project would indirectly impact TCRs by increasing public visibility and ease of access. If so, the project sponsor and/or implementing agency shall take measures to reduce the visibility or accessibility of the TCR to the public. Visibility of the resource can be

reduced through the use of decorative walls or vegetation screening. Accessibility can be reduced by installing fencing or vegetation barriers, particularly noxious vegetation such as poison oak or blackberry bushes. It is important to avoid creating an attractive nuisance when protecting TCRs. Conspicuous walls or signs indicating that an area is restricted may result in more attempts to access the excluded area.

SIGNIFICANCE AFTER MITIGATION

If the implementing agency adopts this mitigation measure, Impact CR-5 may be reduced, but not to a less-than-significant level, because destruction or substantial alteration of a TCR or of its contributing cultural and natural context could still occur.

By following state consultation procedures and implementing these mitigation measures, direct impacts to TCRs would be reduced to a less-than-significant (LS) level by avoiding or preserving in place known TCRs through project design, and by avoiding or preserving inadvertent discoveries of archaeological TCRs through project redesign. If avoidance or preserving in place is infeasible, direct impacts would be reduced to a less-than-significant (LS) level by minimizing disturbance or additional investigation needed to determine the significance and integrity of the portion of the resource within the project area and by requested tribal consultation. The destruction or substantial alteration of a TCR or of its contributing cultural and natural context, however, would result in a significant and unavoidable (SU) direct impact. Indirect impacts to TCRs would be reduced to a less-than-significant (LS) level by project-level planning, coupled with requested tribal consultation, designed to reduce public visibility and accessibility.

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, SACOG cannot require the implementing agency to adopt this mitigation measure, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation. Therefore, Impact CR-5 remains significant and unavoidable (SU) for purposes of this program-level review.

IMPACT CR-6: ELIMINATE IMPORTANT EXAMPLES OF MAJOR PERIODS OF CALIFORNIA HISTORY OR PREHISTORY PURSUANT TO CEQA GUIDELINES SECTION 15065(A)(1).

Regional Impacts

This impact is addressed in the discussion of Impacts CR-1 through CR-5 above, which address impacts to historical built environment resources, archaeological resources, paleontological resources, human remains, and tribal cultural resources resulting from implementation of the proposed MTP/SCS. Mitigation Measure CR-7 addresses these impacts for CR-1, CR-2, CR-3, and CR-5. No mitigation is required for Impact CR-4 as potential impacts on human remains resulting from implementation of the proposed MTP/SCS are considered less-than-significant (LS) for Impact CR-4 since the implementing agencies are responsible for complying with state and federal regulations regarding human remains.

Therefore, the potential regional impacts of the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS on important examples of

major periods of California history and prehistory are considered potentially significant (PS) for Impact CR-6. Mitigation is required. Mitigation Measure CR-7 is described below.

Localized Impacts

Center and Corridor Communities, Established Communities, Developing Communities, Rural Residential Communities, and Lands Not Identified for Development in the MTP/SCS

This impact is addressed in the discussion of Impacts CR-1 through CR-5 above, which address impacts to historical built environment resources, archaeological resources, paleontological resources, human remains, and tribal cultural resources resulting from implementation of the proposed MTP/SCS. Mitigation Measure CR-7 addresses these impacts for CR-1, CR-2, CR-3, and CR-5. No mitigation is required for Impact CR-4 as potential impacts on human remains resulting from implementation of the proposed MTP/SCS are considered less-than-significant (LS) for Impact CR-4 since the implementing agencies are responsible for complying with state and federal regulations regarding human remains.

Therefore, the potential impacts of the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS on important examples of major periods of California history and prehistory within Center and Corridor Communities, Established Communities, Developing Communities, Rural Residential Communities, and Lands Not Identified for Development in the MTP/SCS are considered potentially significant (PS) for Impact CR-6. Mitigation is required. Mitigation Measure CR-7 is described below.

High Frequency Transit Area Impacts

Placer County, Sacramento County, and Yolo County High Frequency Transit Areas

This impact is addressed in the discussion of Impacts CR-1 through CR-5 above, which address impacts to historical built environment resources, archaeological resources, paleontological resources, human remains, and tribal cultural resources resulting from implementation of the proposed MTP/SCS. Mitigation Measure CR-7 addresses these impacts for CR-1, CR-2, CR-3, and CR-5. No mitigation is required for Impact CR-4 as potential impacts on human remains resulting from implementation of the proposed MTP/SCS are considered less-than-significant (LS) for Impact CR-4 since the implementing agencies are responsible for complying with state and federal regulations regarding human remains.

Therefore, the potential impacts of the projected land use pattern and planned transportation improvements resulting from implementation of the proposed MTP/SCS on important examples of major periods of California history and prehistory within HFTAs are considered potentially significant (PS) for Impact CR-6. Mitigation is required. Mitigation Measure CR-7 is described below.

MITIGATION MEASURES

SACOG does not have authority to require the implementing agencies to adopt the identified mitigation measures; the mitigation measures are within the responsibility and jurisdiction of another public agency. However, implementation of Mitigation Measure CR-7 at a project level would reduce the impacts to important examples of major periods of California history or prehistory (historical built environment resources, archaeological resources, paleontological resources, and

tribal cultural resources), and agencies with jurisdiction to adopt these measures can and should do so (PRC Section 21081).

Mitigation Measure CR-7: Implement Mitigation Measures CR-1 through CR-6.

SIGNIFICANCE AFTER MITIGATION

If the implementing agency adopts this mitigation measure, Impact CR-6 may be reduced, but not to a less-than-significant level, because elimination of important examples of major periods of California history or prehistory could still occur. 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, SACOG cannot require the implementing agency to adopt this mitigation measure, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation. Therefore, Impact CR-6 remains significant and unavoidable (SU) for purposes of this program-level review.

This page intentionally left blank.