CHAPTER 6:
INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING

GOAL 1: INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING

Integrate local and regional land use, air quality, and transportation planning to create a transportation system which supports the needs of the system user, enhances the economy, preserves the environment, and protects the community character.

INTEGRATED LAND USE

El Dorado County Transportation Commission will continue to implement Goal 1, Objective A: *"Provide transportation planning support services to local jurisdictions regarding the transportation impacts of local land use decisions,"* through the continuation of community-based transportation planning efforts such as those encouraged through the Caltrans Sustainable Community Transportation Planning Grant Program. EDCTC has worked with El Dorado County, the City of Placerville, community partners, stakeholders, and the general public to develop several community-based transportation plans in the areas of Cameron Park, Coloma, Diamond Springs, City of Placerville and El Dorado Hills. Previous planning efforts are listed in Table 6-1 below.

TABLE 6-1: COMMUNITY-BASED TRANSPORTATION PLANNING EFFORTS IN EL DORADO COUNTY

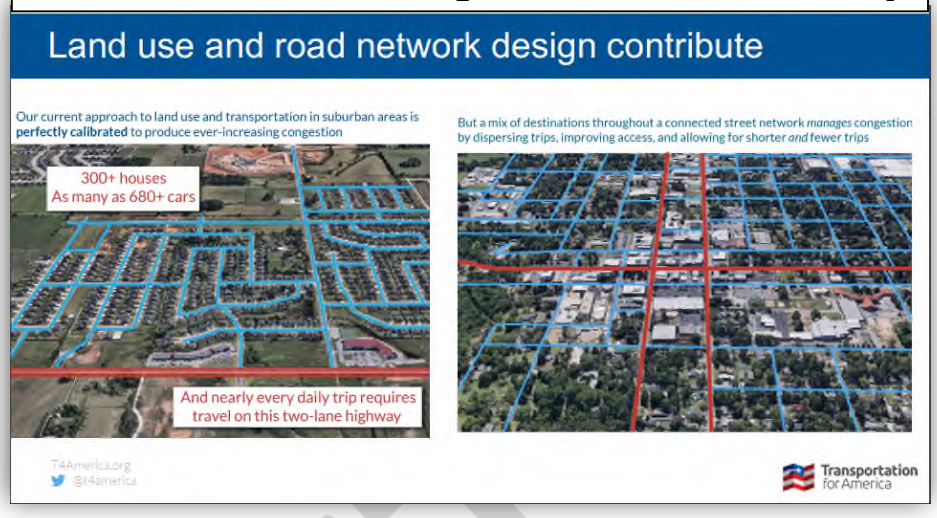
Plan Year	Plan Title	Community Location
2010	Broadway Village Corridor Multi-Modal Implementation Plan	City of Placerville
2014	Diamond Springs and El Dorado Area Mobility and Livable Community Plan	Diamond Springs/El Dorado
2015	Cameron Park Community Mobility Action Plan	Cameron Park
2019	Coloma Sustainable Community Mobility Plan	Coloma
2020	El Dorado Hills Business Park Community Transportation Plan	El Dorado Hills

Community-based transportation planning provides the framework for public engagement and establishes links between local land use planning efforts and transportation needs. The plans help identify transit, active transportation, and multi-modal transportation options within the context of planned and existing land use. These efforts help improve coordination between the functional areas of land use planning, transit operations, active transportation, transportation planning, funding, and efforts to meet the needs of the general public, including the most vulnerable members of the community.

SB 375

Senate Bill 375 (SB 375), which went into effect in 2009, added statutes to the California Government Code to encourage planning practices that create sustainable communities and reduce greenhouse gas (GHG) emissions. SB 375 calls for each Metropolitan Planning (MPO) organization to prepare a Sustainable Communities Strategy (SCS) as an integrated element of the Metropolitan Transportation Plan (MTP). The SCS is intended to show how integrated land use and transportation planning can lead to lower GHG emissions from autos and light trucks. The Sacramento Area Council of Governments (SACOG) serves as the MPO for the greater Sacramento region which includes the West Slope of El Dorado County, the area in which EDCTC has jurisdiction. SACOG works closely with EDCTC to incorporate the RTP into the MTP/SCS to ensure the region meets those GHG reduction targets.

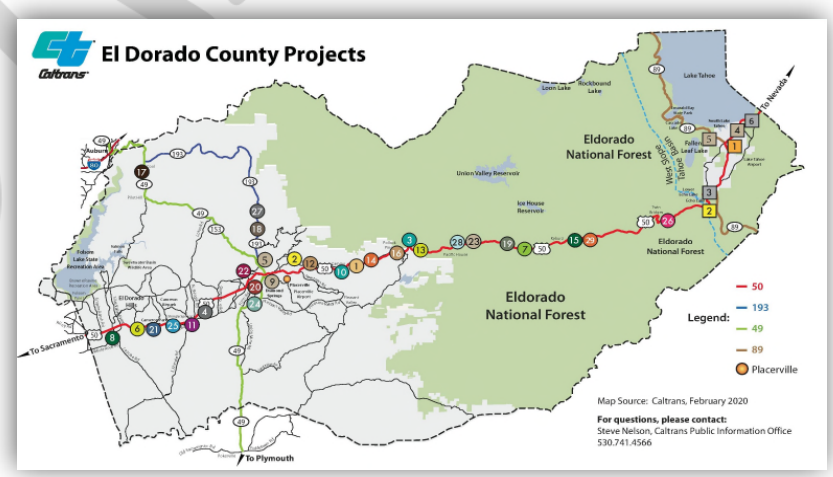
Land Use and Network Design Contribute to Connectivity



CONTEXT SENSITIVE SOLUTIONS

Context Sensitive Solutions (CSS) is the process of engaging stakeholders to address transportation goals within the community, economic, social, and environmental context. It is an inclusive approach used during planning, designing, constructing, maintaining, and operating the transportation system. It integrates and balances community and stakeholder values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary process involving all stakeholders and requires careful, imaginative, and early planning, and continuous stakeholder involvement.

EDCTC practices CSS through comprehensive partner agency and stakeholder engagement, during the RTP development process, as well as through efforts associated with Community Transportation Planning as previously described.



In many communities in El Dorado County, the State highway also functions as a community main street. These communities desire that their main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods. EDCTC works closely with Caltrans and community stakeholders to address those needs, primarily through coordination efforts associated with the EDCTC bi-annual Project Monitoring Report, which includes projects programmed with EDCTC controlled fund sources, and a Caltrans project list and map.

COMPLETE STREETS

The term “Complete Streets” refers to a transportation network that is planned, designed, constructed, operated and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit and rail riders, commercial vehicles and motorists, all in a way that is appropriate to the specific context and function of the facility.

The California Complete Streets Act of 2008 (AB 1358) ensures that the general plans of California cities and counties meet the needs of all users, including pedestrians, transit, bicyclists, the elderly, motorists, movers of commercial goods, and the disabled. AB 1358 requires cities and counties to identify how the jurisdiction will provide accommodation of all users of roadways during the revision of the circulation element of their general plan. The Governor’s Office of Planning and Research amended guidelines for the development of the circulation element to accommodate all users. A comprehensive update of the General Plan Guidelines in 2016 includes guidance on how cities and counties can modify the circulation element to plan for a balanced, integrated, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.

The benefits of Complete Streets can include: Safety, Health, GHG Emission Reduction, and Economic Development and Cost Savings.

Multimodal transportation networks, using complete streets planning practice examples, can lead to safer travel for all roadway users. Designing streets and travel routes that consider safe travel for all modes can reduce the occurrence and severity of vehicular collisions with pedestrians and bicyclists. Streets and other transportation facility design considerations that accommodate a variety of modes and user abilities can contribute to a safer environment that makes all modes of travel more appealing.

Planning for Complete Streets will enable local governments to provide healthier lives by encouraging physical activity. Public health studies have demonstrated that people are more likely to walk in their neighborhood if it has sidewalks. Studies have also found that people with safe walking environments within a ten-minute walking radius are more likely to meet recommended physical activity levels. The integration of sidewalks, bike lanes, transit and rail amenities, and safe crossings into initial design of projects is more cost-effective than making costly retrofits later. Complete Streets is also a key strategy in the reduction of GHG emissions. Providing community residents with an option that gets them out of their cars is a proven strategy for improving communities, reducing air pollution, and generating local business. Similarly, Complete Streets consider Safe Routes to School, a public health strategy connecting communities to schools, that includes but is not limited to child safety, reducing traffic congestion, sidewalks, crosswalks, and bicycle lanes.

Creating integrated, multimodal transportation networks can improve economic conditions for both business owners and residents. A network of Complete Streets can be safer and more appealing to residents and visitors, which can benefit retail and commercial development. Multimodal transportation networks can improve conditions for existing businesses by helping revitalize an area by attracting new economic activity. Equally important to sustain economic vitality are commercial vehicles and their operational needs. Vibrant urban environments cannot function without commercial vehicles delivering goods that sustain economic activity.

Integrating the needs of all users can also be cost-effective by reducing public and private costs. Accommodating all modes reduces the need for larger infrastructure projects, such as additional vehicle parking and road widening, which can be more costly than Complete Streets retrofits.

While AB 1358 provides no statutory requirement for RTPAs, integration of Complete Streets policies support local agencies' requirements to address Complete Streets in circulation elements of their general plan.

To the extent feasible, EDCTC provides support to its local jurisdictions to ensure RTPA funded transportation system projects include Complete Street facilities, and improvements to maximize connectivity, convenience, and safety for all users.

AIR QUALITY

ENVIRONMENTAL SETTING

Air Basin

El Dorado County is located in the middle portion of the Mountain Counties Air Basin (MCAB), which contains Plumas, Sierra, Nevada, Placer, El Dorado, Amador, Calaveras, Tuolumne, and Mariposa Counties. The air basin is located along the northwestern Sierra Nevada mountain range and covers approximately 11,000 square miles. The entire western slope of the County is located within the air basin. The Mountain Counties Air Basin includes the City of Placerville and the western part of El Dorado County. The largest source of air pollution within this basin comes from motor vehicles. A portion of El Dorado County is located in the Lake Tahoe Air Basin. However, the portion of El Dorado County within the Lake Tahoe Air Basin is located outside the scope of the proposed project.

Topography

Specific topography corresponds to the specific air basin. The natural topography of the western slope of the Sierra creates extreme elevation changes throughout the air basin. Elevations range from a few hundred feet above sea level in the west to over 10,000 feet to the east. The pattern of mountains and hills causes a wide variation in rainfall, temperature, and localized winds throughout the basin.

Climate

Temperature variations have an important influence on basin wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry. Winter temperatures in the mountains can be below freezing for weeks at a time, and substantial depths of snow can accumulate. In the western foothills, winter temperatures usually dip below freezing only at night and precipitation is mixed as rain or light snow. In the summer, temperatures in the mountains are mild, with daytime peaks in the 70s to low 80s Fahrenheit, but the western end of the County can routinely exceed 100 degrees Fahrenheit. The Sierra Nevada receives large amounts of precipitation from storms moving in from the Pacific in the winter, with lighter amounts of precipitation in the summer. Precipitation levels are high in the highest mountain elevations but decline rapidly toward the western portion of the basin. Local meteorological conditions are recorded at the Placerville Station. The annual normal precipitation, which occurs primarily from November through March, is approximately 36.74 inches. January temperatures range from a normal minimum of 31.4°F to a maximum of 53.2°F. July temperatures range from a normal minimum of 55.9°F to a normal maximum of 91.2°F (National Oceanic and Atmospheric Administration, 1992).

Criteria Pollutants of Concern

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (USEPA) uses six "criteria pollutants" as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 6.2) are set to public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the proposed project are discussed below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level are a major health and environmental concern. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O_3 levels occur typically during the warmer times of the year. Both VOCs and NO_x are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops, and other sources using solvents.

The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion. Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues.

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing

the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease.

Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO_2 is the increased likelihood of respiratory problems. Under ambient conditions, NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2.

The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO_x). NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO_2) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO_2 emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. SO_2 is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

SO_2 affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp, and paper mills, and from nonferrous smelters.

Particulate Matter (PM) includes dust, dirt, soot, smoke, and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires, and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and VOCs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM_{10} is particulate matter ten micrometers or less in diameter (known as respirable particulate matte*r*), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death. Small particulate pollution has health impacts even at very low concentrations.

Particulate Matter Less Than Ten Microns
Respirable particulate matter (PM_{10}) consists of small particles, less than ten microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural uses (as created by soil preparation activities, fertilizer, and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

Particulate Matter Less Than 2.5 Microns
Fine particulate matter ($PM_{2.5}$) consists of small particles, which are less than 2.5 microns in size. Similar to PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as household burning and wildfire. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the EPA created new Federal air quality standards for $PM_{2.5}$.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children. Particulate matter also soils and damages materials and is a major cause of visibility impairment.

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil, or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive Pb exposure can cause seizures, mental retardation, and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead in ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

REGULATORY SETTING

Federal

Clean Air Act
The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The USEPA is responsible for administering the FCAA. The FCAA requires the USEPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from

respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the USEPA administrator. The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the USEPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. The California Air Resources Board (CARB) is the state agency that is responsible for preparing and implementing the California SIP.

Transportation Conformity Analysis

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas (maintenance areas are those areas that were in nonattainment that have been re-designated to attainment, under the FCCA). Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

State

California Clean Air Act

The CCAA was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The California Air Resources Board (CARB) is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards.

California Air Quality Standards

Although NAAQS are determined by the USEPA, states have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM_{10}) and lead. In addition, California created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 6-2.

In June of 2002, the CARB adopted revisions to the PM_{10} standard and established a new $PM_{2.5}$ annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the state. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB's motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Toward this end, the CARB has adopted regulations which required auto manufacturers to phase in less polluting vehicles.

Tanner Air Toxics Act

California regulates toxic air contaminants (TACs) primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs and has adopted EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate best available control technology (BACT), as determined on a case-by-case basis, to minimize emissions.

Local

Air Quality Management District

The El Dorado County Air Quality Management District (AQMD), or "Air District", is a special district created by state law to enforce local, state and federal air pollution regulations, and is the lead regional agency responsible for conducting air quality planning in El Dorado County, as well as for

adopting strategies needed to improve air quality and ensure the Region's compliance with federal and state standards.

Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is designated as the Metropolitan Planning Organization (MPO) for El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba counties and prepares the Metropolitan Transportation Plan (MTP) for the Sacramento Region. In addition, SACOG, through a memorandum of understanding with the EDCTC, governs federal transportation planning and programming for El Dorado County and is responsible for ensuring that the 2020-2040 RTP conforms to the State Implementation Plan (SIP).

El Dorado County Transportation Commission

The EDCTC is comprised of nine members: seven are elected officials representing local jurisdictions. The seven elected officials are voting members; three are City of Placerville Council members and four are El Dorado County Supervisors. Two non-voting advisory members represent the California Department of Transportation (Caltrans, District 3) and the City of South Lake Tahoe. The EDCTC is responsible for coordinating regional transportation planning for the western slope of El Dorado County. Being the State-mandated Regional Transportation Planning Agency, EDCTC prepares the Regional Transportation Plan and Improvement Program for the Western Slope. This Plan is updated every five years.

Local General Plans

El Dorado County and the City of Placerville, the only incorporated city/town within the portion of El Dorado County in the MCAB, do not directly regulate air quality within their jurisdictions. However, the county and city each adopt policies within their General Plans to reduce air pollutant emissions as part of their general plans and other local programs.

AMBIENT AIR QUALITY STANDARDS

Both the USEPA and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant. Each pollutant is measured over several standardized timeframes (called the averaging times), which provide a standard to compare monitored levels of pollutants to the federal and state standards. Each criteria pollutant has more than one average time – for example, the state ambient air quality standard for ozone is monitored over both one-hour and eight-hour periods.

The federal and California state ambient air quality standards are summarized in Table 6-2 for important pollutants. The federal and state ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and PM_{10}.

TABLE 6-2: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Federal Primary Standard	State Standard
Ozone	1-Hour 8-Hour	-- 0.070 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.53 ppm 0.100 ppm	0.03 ppm 0.18 ppm

Pollutant	Averaging Time	Federal Primary Standard	State Standard
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm 0.075 ppm	-- 0.04 ppm 0.25 ppm
PM_{10}	Annual 24-Hour	-- 150 µg/m^3	20 µg/m^3 50 µg/m^3
$PM_{2.5}$	Annual 24-Hour	12 µg/m^3 35 µg/m^3	12 µg/m^3 --
Lead	30-Day Avg. Calendar Quarter	-- 0.15 µg/m^3	1.5 µg/m^3 --

Notes: ppm = parts per million, ppb = parts per billion, µg/m^3 = Micrograms per Cubic Meter
Sources: California Air Resources Board, 2019b.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within the EDCTC planning area are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, and odors. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, incidences of wildfire, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once (excluding those occasions when a violation was caused by an exceptional event, as defined by the CARB).

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The USEPA designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of Attainment, Nonattainment, and Unclassified is more frequently used.

The portion of El Dorado County located within the MCAB (i.e. the western portion of El Dorado County, which excludes area within the Lake Tahoe Air Basin) has a state designation of Nonattainment for ozone and PM_{10}, and a state designation of either Unclassified or Attainment for all other criteria pollutants. The portion of El Dorado County within the MCAB has a national designation of Nonattainment for ozone and $PM_{2.5}$ and a national designation of either Attainment or Unclassified

for all other criteria pollutants (or insufficient or no data was available to determine the status). Table 6-3 presents the state and national attainment status for the portion of El Dorado County within the MCAB.

TABLE 6-3: STATE AND NATIONAL ATTAINMENT STATUS (EL DORADO COUNTY WITHIN THE MCAB*)

Criteria Pollutants	State Designations	National Designations
Ozone	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Unclassified
$PM_{2.5}$	Unclassified	Nonattainment
Carbon Monoxide	Unclassified	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment

TABLE 6-3: *(continued)*
STATE AND NATIONAL ATTAINMENT STATUS (EL DORADO COUNTY WITHIN THE MCAB*)

Criteria Pollutants	State Designations	National Designations
Sulfates	Attainment	**
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	**
Visibility Reducing Particles	Unclassified	**

Sources: California Air Resources Board, 2018.
**= Note: The portion of El Dorado County with the MCAB does not include the area within the Lake Tahoe Air Basin.*
***= There was insufficient (or no) data available to determine the status.*

El Dorado County Air Quality Monitoring

Air pollutant concentrations are measured at several monitoring stations throughout El Dorado County including:

- Big Hill Lookout Road
- Coloma-Park Headquarters
- Cool-Highway 193
- Echo Summit
- Kyburz-Fire Station
- Loon Lake-Power House
- Placerville-Airport
- Placerville-Gold Nugget Way
- Shingle Springs Ponderosa High School
- Sly Park-Dam
- Strawberry

Air Quality in El Dorado County is generally worse in the western portion of the County. Table 6-4 provides a sample of the air quality monitoring results for the monitoring stations within the portion of El Dorado County in the MCAB for years 2016 through 2018. Data for Ozone is provided from the Cool Highway 193 monitoring site located in Auburn. However, recent data for particulate matter (i.e. PM_{10} and $PM_{2.5}$) for the portion of El Dorado County in the MCAB was not available. The only monitoring station in El Dorado County that maintains recent monitoring for particulate matter in El Dorado County is located in South Lake Tahoe (South Lake Tahoe-Sandy Way monitoring station), which is located outside of the Planning Area. Table 6-5 provides a sample of the air quality monitoring results for the MCAB as a whole.

TABLE 6-4: AMBIENT AIR QUALITY MONITORING DATA (COOL HIGHWAY 193)

Pollutant	Cal.	Fed.	Year		

	Primary Standard			Max Concentration	Days Exceeded State/Fed Standard
Ozone (O_3) (1-hour)	0.09 ppm (180 µg/m^3)	--	2018 2017 2016	0.121 0.106 0.105	13 / ** 4 / ** 3 / **
Ozone (O_3) (8-hour)	0.070 ppm (137 µg/m^3)	0.070 ppm (147 µg/m^3)	2018 2017 2016	0.108 0.085 0.095	26 / 26 28 / 28 20/ 20
Particulate Matter (PM_{10}) (24-hour)	50 µg/m^3	150 µg/m^3	2018 2017 2016	** ** **	**/** **/** **/**
Fine Particulate Matter ($PM_{2.5}$) (24-hour)	--	35 µg/m^3	2018 2017 2016	** ** **	**/** **/** **/**

Source: California Air Resources Board (ADAM) Air Pollution Summaries, 2019a.

*Notes: µg/m^3 = microns per cubic meter; ** = There was insufficient (or no) data available to determine the value.*

TABLE 6-5: AMBIENT AIR QUALITY MONITORING DATA (MOUNTAIN COUNTIES AIR BASIN)

Pollutant	Cal. / Fed. Primary Standard		Year	Max Concentration	Days Exceeded State/Fed Standard
Ozone (O_3) (1-hour)	0.09 ppm (180 µg/m^3)	--	2018 2017 2016	0.129 0.113 0.112	24/ ** 18/ ** 17 / **
Ozone (O_3) (8-hour)	0.070 ppm (137 µg/m^3)	0.070 ppm (147 µg/m^3)	2018 2017 2016	0.114 0.099 0.097	56/ 53 90 / 84 74 / 72
Particulate Matter (PM_{10}) (24-hour)	50 µg/m^3	150 µg/m^3	2018 2017 2016	307.5 141.7 62.4	**/** 0/** 0 / 0
Fine Particulate Matter ($PM_{2.5}$) (24-hour)	--	35 µg/m^3	2018 2017 2016	142.8 109.7 57.2	**/16.2 **/15.5 **/24.3

Source: California Air Resources Board (ADAM) Air Pollution Summaries, 2019a.

*Notes: µg/m3 = microns per cubic meter; ** = There was insufficient (or no) data available to determine the value.*

TABLE 6-6: INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING ACTION PLAN

Project Description	Responsible/Supporting Agencies
Support the implementation of the local jurisdictions' General Plans and encourage implementation to include performance measures to balance growing capacity, cost of infrastructure, and quality of life; seek a balance of housing and employment land uses which encourage the use and integration of transit in daily trips; and continue to provide opportunities to review development proposals to ensure the region's transportation goals, objectives, and strategies are achieved	Local jurisdictions, EDCTC, El Dorado Transit

Incorporate public outreach efforts as a fundamental component of the transportation planning process and encourage input from all interest groups and individuals	Local jurisdictions, EDCTC, El Dorado Transit, SACOG, Caltrans
Encourage local jurisdictions to seek a balance of housing and employment land uses to improve the jobs/housing balance and encourage the use of transit and/or active modes for daily trips	Local jurisdictions, EDCTC, El Dorado Transit
Encourage local land use planning and community design which minimizes dependence on long-distance, single-occupant-vehicle commute trips	Local jurisdictions, EDCTC, El Dorado Transit
Coordinate with local jurisdictions to plan for, construct, and maintain multi-modal transportation infrastructure for the senior, youth, and mobility challenged	Local jurisdictions, EDCTC, El Dorado Transit
Encourage local jurisdictions to include multi-modal options within mixed-use and infill development	Local jurisdictions, EDCTC, El Dorado Transit
Work with local jurisdictions to plan and develop transportation projects and programs that complement planned growth patterns, economic development programs, and support adjacent land uses	Local jurisdictions, EDCTC, El Dorado Transit, SACOG

TABLE 6-6: *(continued)*
INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING ACTION PLAN

Project Description	Responsible/Supporting Agencies
Work with local jurisdictions to review and assess the impact of new development proposals on transportation system demand	Local jurisdictions, EDCTC, El Dorado Transit, SACOG, Caltrans
Plan for transportation improvements which reflect and support projected growth and congestion	Local jurisdictions, EDCTC, El Dorado Transit, SACOG, Caltrans
Work with local jurisdictions to protect transportation corridors and rights-of-way to support opportunities for improved transportation connectivity and parallel capacity to US 50	Local jurisdictions, EDCTC, El Dorado Transit, SACOG, Caltrans
Encourage local jurisdictions to use Complete Streets practices for new development, redevelopment, and infill areas with a focus on high traffic and high-intensity land uses	Local jurisdictions, EDCTC, El Dorado Transit

Unlike in other Action Plan sections, there are no projects included in the RTP 2040 that are specifically identified as "integrated lane use, air quality and transportation planning" projects and therefore they are not depicted as a proportionate share of total expenditures contributing to fiscal constraint. The proposed actions are consistent with the strategies outlined in the Goals, Objectives, and Strategies. However, there are some proposed projects that are consistent with the Action Plan and are included in other sections. Table 6-7 includes example projects included within the financially constrained RTP 2020-2040 project lists:

TABLE 6-7: INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING PROJECT EXAMPLES

Project	Description
Camino Agritourism Congestion Relief Project Phase 1	Includes innovative technology-based solutions to address yearly congestion in Camino, as well as ITS, signage, planning studies, etc.
System Management/Traffic Operations System on U.S. 50 between I-80 and Cedar Grove	Operational Improvements: traffic monitoring stations, closed circuit television, highway advisory radio, changeable message signs, and other system management infrastructure in El Dorado and Sacramento Counties.
Mosquito Rd./ Clay St. Park & Bus (Placerville Station Phase II)	Phase II - Construct an additional 50-car parking lot with lighting landscaping, install public restrooms, and install the El Dorado Trail facility.