

CHAPTER 7: SUSTAINABILITY

GOAL 2: SUSTAINABILITY

Encourage sustainable transportation options, embrace new technologies and develop climate adaption resiliency strategies.

NEW TECHNOLOGIES IN TRANSPORTATION

While maintaining the current transportation network is a priority for EDCTC, we are also planning ahead for a future in which technology will transform the way that people move and live. This section provides a summary of federal guidance intended to prepare for the new technologies and innovations that will define the future of transportation.

AUTONOMOUS OR SELF-DRIVING VEHICLES

Autonomous or Self-Driving Vehicles are piloted by various technologies that require little to no input from a human driver. The technologies include GPS navigation, sensors, optics, and other detection systems to avoid collisions. Autonomous vehicles have been tested in several forms around the United States and other parts of the world. Some in the industry believe the future in transportation will be driverless. Many challenges will need to be overcome before full integration of autonomous vehicles takes place. However, in the near term, implementation is already taking place on a smaller scale in the Sacramento region. In 2019 both California State University Sacramento and the City of Rancho Cordova White Rock Corporate Campus tested Olli, the world's first co-created, 3D printed, self-driving shuttle developed by Local Motors. At each location, Olli is taking passengers on short trips around their respective campuses.



CONNECTED VEHICLE PROGRAM

The development of connected vehicles is being led by the federal government in partnership with state DOTs, regional transportation agencies, and the auto industry. Connected vehicles will utilize technology that will enable cars, buses, trucks, trains, roads, other infrastructure, and smartphones to “talk” to one another. Cars on the highway, for example, would use short-range radio signals to communicate with each other so every vehicle on the road would be aware of where other nearby vehicles are. The technology in their cars would alert drivers of dangerous situations, such as someone about to run a red light or an oncoming car swerving into their lane. There are several activities related to the national Connected Vehicle Program that will impact regional and local transportation agencies, in addition to Caltrans. Since 90% of the roadways in California are owned and operated by local agencies, including the 58 counties and more than 500 incorporated cities, it is important that EDCTC and partner agencies be aware of and plan for the implementation of

connected vehicles. A pending rule being considered by the National Highway Traffic Safety Administration (NHTSA) would mandate that equipment for vehicle-to-vehicle (V2V) communications, using a technology called “Dedicated Short-Range Communications” (DSRC), be installed in the light-duty passenger car fleet to enable applications that improve vehicle safety. As the government regulator for auto industry safety, NHTSA is expected to adopt this rule, as it did for other safety systems such as seat belts, airbags, and anti-lock brakes.



EDCTC is also aware of the pending guidance from the FHWA to transportation infrastructure owner/operators (Caltrans; counties; and cities) on what equipment to consider installing in their transportation infrastructure to support both V2V and vehicle-to-infrastructure (V2I) communications using DSRC. The best example of this type of equipment is DSRC radios that provide the communication capability that is essential for V2I applications. Roadside processors may also be necessary in some cases where applications demand heavier computing requirements.

Unlike the development of connected vehicles, which is a collaborative effort between the federal government, state DOTs, regional transportation agencies, and the auto industry, automated vehicles are being developed independently by companies in the technology industry such as Google, Tesla, and Delphi. So far, their philosophy has been to avoid dependence on transportation-related infrastructure. However, it is difficult to achieve vehicle automation and connected vehicle (CV) applications without appropriate support from that infrastructure, which needs to be upgraded with DSRC radios and roadside processors. Roadside processors are not an absolute requirement but may be required in some cases.

Title 23 U.S.C. Section 518 requires the U.S. DOT Secretary to establish guidance for the recommended implementation path for V2V and V2I communication system deployment. Title 23 U.S.C. Section 519 ensures that funds are available for the development of Intelligent Transportation System (ITS) Infrastructure, equipment, and systems.

PUBLIC HEALTH AND EQUITY

The role of transportation in public health is increasingly recognized by health advocates and transportation providers alike. Federal, state, regional, and local transportation agencies have long focused on improving both air quality and safety, which are very important to public health. More recently the understanding of the relationship of transportation and health has been expanding to include a much broader range of community needs. One fundamental example is the way in which transportation can encourage physical activity, such as walking and biking, often referred to as active transportation. There is a demonstrated relationship between increased physical activity and a wide range of health benefits. If a higher level of investment is made in active transportation, the walk and bike mode shares could be increased, which could help a community lower its rates of obesity, hypertension, and other chronic diseases. However, local jurisdictions primarily lead the planning and implementing of active transportation infrastructure and supportive land uses, and land use patterns play at least as large a role as the level of investment does in encouraging more active mode choices.

Transportation is also being seen not as an end in itself, but as a means to provide access to important destinations: access to jobs, education, healthy food, recreation, worship, community activities, healthcare, and more. Improved access to key destinations is especially critical for disadvantaged and underserved communities. The design of the transportation system, in combination with land use and housing decisions, also plays a role in public health. Coordinated planning of transportation and land use can promote public health through the development of livable, walkable, accessible communities. And as nations, states, and regions shift away from fossil fuel dependent transportation modes, the benefits of reducing the effects of climate change will also help reduce the public health risks from the effects of climate change such as extreme heat, storms, and drought. Transportation and public health providers can help one another address all of these factors, learning from each other and joining their skills to improve transportation for better health outcomes for everyone.

Improving transportation infrastructure in ways that encourages walking and cycling is one of several effective ways to improve physical activity, decrease traffic collisions, and improve one's health status. Transportation planning also has a tremendous impact on community health, safety, and neighborhood cohesion. For instance, health-focused transportation plans can help reduce the rate of injuries and fatalities from collisions. Some research suggests that there is a multiplier effect: when streets are designed to safely accommodate walking and biking, more people do so, and as more people walk and bike the rate of collisions actually goes down as pedestrians and bicyclists become more visible to motorists. In addition, more people out walking and biking in a neighborhood has an important public safety benefit, as it means there are more "eyes on the street" to deter criminal activity. Taking this a step further, studies have shown that people who live in neighborhoods with less traffic and higher rates of walking, bicycling, and transit use know more of their neighbors, visit their neighbor's homes more often, and are less fearful of their neighbors. When streets are inhospitable to pedestrians and bicyclists, residents don't feel safe walking or biking to nearby transit and their ability

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to access regional educational and employment opportunities is hampered. In short, improving traffic safety results in better public health and community well-being beyond simply reduced injuries and fatalities.

MICRO-MOBILITY

Micro-Mobility is a relatively new concept for transportation that includes things such as electric scooters, electric skateboards, shared electric assist and traditional bicycles and electric pedal assisted bicycles.

Several startups such as Lime, Jump and Bird have launched bike and scooter share programs, predominantly in urban areas to support short trips and vehicular trip replacement on a small scale. Scooter and bike share can support first and last mile trips to or from transit, or short trips to the store or to run an errand. These programs have not yet fully penetrated the rural or small region market, but it is likely that as these companies and uses become more established, transition into rural areas will be commonplace.



SHARED MOBILITY – TRANSPORTATION NETWORK COMPANIES

Transportation Network Companies (TNCs), such as Uber™ and Lyft™, provide prearranged transportation services for compensation using an online-enabled application or mobile smart phone platform to connect drivers using their personal vehicles with passengers needing a ride. These ‘shared mobility’ systems are commonly referred to as ride-hailing services and companies like Lyft and Uber are currently dominating the market. In recent years, TNCs have dramatically increased in popularity for both short trips in urban areas to serving as an alternative to having a ‘designated driver’ for a night out on the town in more suburban areas. In rural areas such as El Dorado County, TNCs can provide transportation where and when private taxi or transit services are limited or not available.

GREENHOUSE GASES AND CLIMATE CHANGE

Various gases in the Earth’s atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth’s surface temperature. Solar radiation enters Earth’s atmosphere from space, and a portion of the radiation is absorbed by the Earth’s surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, radiation that otherwise would have escaped back into space is now retained, resulting in warming of the atmosphere. This phenomenon is known as the greenhouse effect.

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial sector (California Energy Commission, 2018a).

Consumption of fossil fuels in the transportation sector was the single largest source of California’s

GHG emissions in 2016, accounting for 41% of total GHG emissions in the state. Transportation was followed by the industrial sector (23%), the electricity generation sector (including both in-state and out of-state sources) (16%), the agriculture sector (8%), the residential energy consumption sector (7%), and the commercial energy consumption sector (5%) (California Energy Commission, 2018a).

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 U.S. Environmental Protection Agency (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, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the USEPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The USEPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, the USEPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide USEPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO₂ per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial greenhouse gases along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

State

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as CEC. The Act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission (CPUC) regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

State of California Energy Action Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current plan is the 1997 California Energy Plan. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs; and encouragement of urban design that reduces VMT and accommodates pedestrian and bicycle access.

Assembly Bill 1493

In response to AB 1493, CARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961), and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. For passenger cars and light-duty trucks 3,750 pounds or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than during the first year of the regulations in 2009. For medium-duty passenger vehicles and light-duty trucks 3,751 LVW to 8,500 pounds gross vehicle weight (GVW), GHG emissions were reduced approximately 24 percent between 2009 and 2016.

On July 8, 2009, the USEPA granted a waiver of Clean Air Act preemption to California for its Greenhouse Gas Emission Standards for motor vehicles beginning with the 2009 model year. The intent of the waiver was to allow California to enact emissions standards to reduce carbon dioxide and other greenhouse gas emissions from automobiles, in accordance with the regulation amendments to the CCRs that fulfill the requirements of AB 1493.

In September 2019, the federal government rescinded the waiver granted by the USEPA to California in 2009. This decision is currently undergoing litigation, with California and environmental groups fighting to maintain the stricter state standards within California as promulgated under AB 1493. This

waiver rescission and ensuing litigation challenging the decision will determine what room exists for California' existing regulation of fuel economy and tailpipe emissions.

Assembly Bill 1007

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

Bioenergy Action Plan – Executive Order S-06-06

Executive Order S-06-06 established targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order established the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the state to meet a target for use of biomass electricity.

California Executive Orders S-3-05 and S-20-06, and Assembly Bill 32

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by 2020 and 3) 80% below the 1990 levels by the year 2050. EO-S-20-06 establishes responsibilities and roles of the Secretary of Cal/EPA and state agencies in climate change

In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that the CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

EO S-13-08

EO S-13-08 was issued on November 14, 2008. The EO is intended to hasten California's response to the impacts of global climate change, particularly sea level rise, and directed state agencies to take specified actions to assess and plan for such impacts, including requesting the National Academy of Sciences to prepare a Sea Level Rise Assessment Report, directing the Business, Transportation, and Housing Agency to assess the vulnerability of the State's transportation systems to sea level rise, and requiring the Office of Planning and Research and the Natural Resources Agency to provide land use planning guidance related to sea level rise and other climate change impacts.

The order also required State agencies to develop adaptation strategies to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. The adaption strategies report summarizes key climate change impacts to the State for the following areas: public health; ocean and coastal resources; water supply and flood protection; agriculture; forestry; biodiversity and habitat; and transportation and energy infrastructure. The report recommends strategies and specific responsibilities related to water supply, planning and land use, public health,

fire protection, and energy conservation.

Assembly Bill 32 - Climate Change Scoping Plan

On December 11, 2008, the CARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of the CARB's plans to achieve GHG reductions in California required by Assembly Bill (AB) 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce carbon dioxide-equivalent (CO₂e) emissions by 169 million metric tons (MMT), or approximately 30 percent, from the state's projected 2020 emissions level of 596 MMT of CO₂e under a business-as-usual scenario. (This is a reduction of 42 MMT CO₂e, or almost 10 percent, from 2002–2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.) The Scoping Plan also breaks down the amount of GHG emissions reductions the CARB recommends for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO₂e);
- the Low-Carbon Fuel Standard (15.0 MMT CO₂e);
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO₂e); and
- a renewable portfolio standard for electricity production (21.3 MMT CO₂e).

The CARB updated the Scoping Plan in 2013 (*First Update to the Scoping Plan*) and again in 2017 (the *Final Scoping Plan*). The 2013 Update built upon the initial Scoping Plan with new strategies and recommendations, and also set the groundwork to reach the long-term goals set forth by the state. Successful implementation of existing programs (as identified in previous iterations of the Scoping Plan) has put California on track to meet the 2020 target. The 2017 Update expands the scope of the plan further by focusing on the strategy for achieving the state's 2030 GHG target of 40 percent emissions reductions below 1990 levels (to achieve the target codified into law by SB 32), and substantially advances toward the state's 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

The 2017 Update relies on the preexisting programs paired with an extended, more stringent Cap-and-Trade Program, to deliver climate, air quality, and other benefits. The 2017 Update identifies new technologically feasible and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health.

Senate Bill 32

Senate Bill 32, which passed into law in 2016, sets the target of reducing greenhouse gas emissions to 40 percent below the 1990 level by the year 2030. SB 32 extends the original set of greenhouse gas targets provided by the passage of AB 32 (the Global Warnings Solutions Act of 2006). This new target sets an aggressive goalpost, helping the State along its pathway to achieve its longer-term goal of an 80 percent reduction in greenhouse gas emissions by the year 2050.

Senate Bill 743

SB 743, passed into law in 2013, changes the way that public agencies evaluate the transportation impacts of projects under CEQA. The proposed revisions to the State CEQA Guidelines would establish new criteria for determining the significance of a project's transportation impacts that will more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHGs. The 2017 Update to the Scoping Plan identified that slower VMT growth from more efficient land use development patterns would promote achievement of the state's climate goals.

As detailed in SB 743, the Governor's Office of Planning and Research (OPR) was tasked with developing potential metrics to measure transportation impacts and replace the use of delay and level of service (LOS).

Executive Order B-48-18: Zero-Emission Vehicles

In January 2018, EO B-48-18 was signed into law and requires all State entities to work with the private sector to have at least 5 million zero-emission vehicles (ZEVs) on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This Executive Order also requires all State entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and update the 2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All State entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan (Governor's Interagency Working Group on Zero-Emission Vehicles 2016) to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all State entities are to support and recommend policies and actions to expand ZEV infrastructure at residential developments through the Low Carbon Fuel Standard Program and recommend how to ensure affordability and accessibility for all drivers.

Assembly Bill 2076: California Strategy to Reduce Petroleum Dependence

In response to the requirements of Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), the CEC and the CARB developed a strategy to reduce California's dependence on petroleum. The strategy, *Reducing California's Petroleum Dependence*, was adopted by the CEC and CARB in 2003. The strategy recommends that California reduce on-road gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 and maintain that level for the foreseeable future; the Governor and Legislature work to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks, and sport utility vehicles (SUVs); and increase the use of non-petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Governor's Low Carbon Fuel Standard (Executive Order S-01-07)

Executive Order S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through establishment of a Low Carbon Fuel Standard. The Low Carbon Fuel Standard is incorporated into the State Alternative Fuels Plan and is one of the proposed discrete early action GHG reduction measures identified by the CARB pursuant to AB 32.

Senate Bill 97

Senate Bill (SB) 97 (Chapter 185, 2007) required OPR to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. OPR prepared its recommended amendments to the State CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions in draft CEQA documents. The Amendments became effective on March 18, 2010.

Senate Bill 375

Senate Bill (SB) 375 (Stats. 2008, ch. 728) (SB 375) was built on AB 32 (California's 2006 climate change law). SB 375's core provision is a requirement for regional transportation agencies to develop a Sustainable Communities Strategy (SCS) in order to reduce GHG emissions from passenger vehicles. Each region across the state is required to develop a Sustainable Communities Strategy (SCS) as part of their transportation plan. The SCS is a plan to meet the region's greenhouse gas emissions reduction target, while taking into account regional housing needs, transportation

demands, and protection of resource and farmlands based on the best forecast of likely land use patterns across local jurisdictions. Additionally, SB 375 amended the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) to ease the environmental review of developments that help reduce the growth of GHG emissions.

Executive Order B-30-15

On April 29, 2015, Governor Jerry Brown issued Executive Order (EO) B-30-15, which established a State GHG reduction target of 40 percent below 1990 levels by 2030. The new emission reduction target provides for a mid-term goal that would help the State to continue on course from reducing GHG emissions to 1990 levels by 2020 (per AB 32) to the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050 (per EO S-03-05). This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius – the warming threshold at which scientists say there will likely be major climate disruptions. EO B-30-15 also addresses the need for climate adaptation and directs State government to:

- Incorporate climate change impacts into the State’s Five-Year Infrastructure Plan;
- Update the Safeguarding California Plan, the State climate adaptation strategy, to identify how climate change will affect California infrastructure and industry and what actions the State can take to reduce the risks posed by climate change;
- Factor climate change into State agencies’ planning and investment decisions; and
- Implement measures under existing agency and departmental authority to reduce GHG emissions.

Advanced Clean Cars Program

In January 2012, the CARB approved the Advanced Clean Cars program which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single package of standards for vehicle model years 2017 through 2025. The new rules strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program’s zero-emission vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California’s new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the state. The program will have significant energy demand implications as battery, fuel cell, and/or plug-in hybrid electric vehicle sales increase overtime, creating new demand for electricity services both in residential and commercial buildings (e.g. charging stations) as well as demand for new EV and hydrogen fuel cell charging stations. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. According to the CARB, by 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions than the statewide fleet in 2016

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 Local 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. The SACOG Board adopted the 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) in February 2016. A program-level EIR addressing the environmental impacts of the 2016 MTP/SCS was also prepared and certified. The SCS portion of the MTP/SCS identifies policies and strategies to reduce GHG emissions from passenger vehicles to targets set by the CARB. Pursuant to SB 375, SACOG was tasked by the CARB to achieve a 7 percent per capita reduction in passenger-vehicle generated transportation emissions by 2020 and a 16 percent per capita reduction by 2035 from 2005, which the CARB confirmed the region would achieve by implementing its Sustainable Communities Strategy. The most recent SACOG MTP/SCS (The SACOG 2020 MTP/SCS) was adopted by the SACOG Board of Directors in November 2019. SB 375 gives the CARB the ability to reset the GHG reduction targets assigned to all MPO's in California. For the fourth round of SCS's in the state, the CARB assigned SACOG a 19 percent reduction target by 2035. Specifically, this target is the percent reduction in passenger vehicle greenhouse gas emission per capita, compared to year 2005.



The Sacramento Region Blueprint

In December 2004, the SACOG Board of Directors approved of the Preferred Blueprint Scenario for 2050, which establishes a vision for the Sacramento region's future growth. The Blueprint Project aim is to support local governments with high quality data and modeling tools, so that decisions regarding future growth and its effects issues such as traffic congestion and air pollution could be made with the best information available.

TABLE 7-1: SUSTAINABILITY ACTION PLAN

Project Description	Responsible/Supporting Agencies
Coordinate with local agencies, Caltrans, and other partners to prioritize transportation projects that minimize vehicle emissions while providing cost effective movement of people and freight	Local jurisdictions, EDCTC, El Dorado Transit, SACOG, Caltrans
Work with local and regional transit providers, jurisdictions, and employers to provide for transportation services, facilities, and vehicles that cause the least amount of environmental impact and yield environmental benefits wherever feasible	Local jurisdictions, EDCTC, El Dorado Transit, SACOG, Caltrans
Work with local jurisdictions and first responders to develop strategies to lessen the impacts on the transportation system due to severe weather events and wildfire	Local jurisdictions, EDCTC, El Dorado Transit
Consider how transportation policies, programs, and investment strategies affect the overall health of people and the environment including air and water quality, physical activity, and natural resources	Local jurisdictions, EDCTC, El Dorado AQMD, El Dorado Transit

Work with state, regional, and local partners to develop a strategy to identify the necessary infrastructure and policies to support electric vehicle charging integration into the existing transportation framework	Local jurisdictions, EDCTC, El Dorado Transit, El Dorado AQMD, SACOG, Caltrans
Collaborate with local jurisdictions to identify and develop transportation solutions that effectively meet the needs of an aging population	Local jurisdictions, EDCTC, El Dorado Transit
Develop education and outreach programs to increase awareness, improve usability, and promote transportation network company options	Local jurisdictions, EDCTC, El Dorado Transit, SACOG
Work with local jurisdictions to identify and secure locations for park-and-ride lots to support shared ride and transit mobility options	Local jurisdictions, EDCTC, El Dorado Transit, Caltrans
As markets expand, work with local jurisdictions to integrate new technologies needed to support connected, electric, alternative fuel, and autonomous vehicles	Local jurisdictions, EDCTC, El Dorado Transit, SACOG, Caltrans

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**TABLE 7-1: (continued)
SUSTAINABILITY ACTION PLAN**

Project Description	Responsible/Supporting Agencies
Work with local jurisdictions to improve and extend broadband, Wi-Fi and digital infrastructure to remote areas to promote telecommuting and telemedicine	Local jurisdictions, EDCTC
Work with local jurisdictions to support the appropriate use of electric and electric assist mobility devices such as bicycles, scooters, segways, and electric skateboards	Local jurisdictions, EDCTC
Ensure that local jurisdictions remain current on emerging technologies and implement smart mobility solutions with new projects whenever and wherever feasible and appropriate	Local jurisdictions, EDCTC, El Dorado Transit, SACOG, Caltrans

Unlike in prior Action Plan sections, there are no projects included in the RTP 2040 that are specifically identified as “sustainability” projects and therefore are not depicted as a proportionate share of total expenditures. 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 this Action Plan, which are included in the other sections. Table 7-2 includes example projects included within the financially constrained RTP 2020-2040 project lists:

TABLE 7-2: SUSTAINABILITY PROJECT EXAMPLES

Project	Description
US 50 Corridor Broadband and System Technology Advances	Extend US 50 Corridor Broadband to Pollock Pines, Placerville System Technology Advances, Remote Traffic Control Workstation, Traffic Control System Upgrade (TCS), Procurement and Information Dissemination Devices at Key Locations
County Line Transit Center	Efforts are ongoing to establish a multimodal transit center/fueling station in the El Dorado Hills area near the Sacramento County Line
ITS Improvements - Phase 1	Identification of various Intelligent Transportation System (ITS) improvements along US 50 and regionally significant corridors in the County; projects may include upgrading all controllers, building the communications infrastructure, adding CCTVs, adding DMS, connecting all the signals
STARNET Integration B	STARNET Integration, El Dorado County, Caltrans District 3, SACOG
El Dorado Hills Bicycle and Pedestrian Overcrossing	Bicycle and Pedestrian Overcrossing of US 50 connecting Raley’s Center on the north with Town Center to the south
El Dorado Hills TNC - Demonstration	Fixed route service in El Dorado Hills has not proven to be cost-effective. As part of a minimum one-year demonstration project, El Dorado Transit should partner with one or more Transportation Network Companies (TNCs) to provide a public transit option in El Dorado Hills. El Dorado Transit would pay of half of the TNC fare up to \$5.00 per one-way trip.
Evening Service TNC - Demonstration	Use TNC service to expand the hours of transit service through the early evening. The objective of the service would be to provide a ride home for existing EDT passengers using existing EDT services to access employment or school in the Placerville/Diamond Springs area.

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