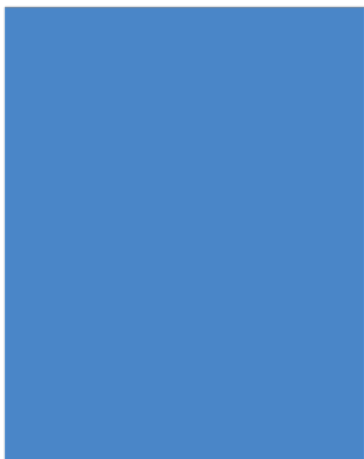


# CLIMATE ACTION PLAN

MARCH 2021



# 1 INTRODUCTION

## 1.1 CLIMATE ACTION PLAN PURPOSE AND COMPONENTS

This Climate Action Plan (CAP) details specific measures that will be implemented in Sacramento County (County) by 2030 to reduce greenhouse gas (GHG) emissions from communitywide activities and government operations. It also includes an adaptation plan that recommends actions to reduce the community's vulnerability to the anticipated impacts of climate change.

The CAP has been developed in response to mitigation measures contained in the County's General Plan<sup>1</sup>, and the County's adoption of a Climate Emergency Resolution in December 2020<sup>2</sup>. The strategies and measures contained in this CAP compliment a wide range of policies, plans, and programs that have been adopted by the County, State, and Regional agencies to protect communities from hazards and activities contributing to GHG emissions. This CAP is organized into a main CAP document that provides general information about the County's approach and actionable strategies followed by seven appendices containing more information on the analyses used to inform the strategies and measures.

### MAIN CAP DOCUMENT

Section 1: Introduction

Section 2: Community GHG Reduction Strategy

Section 3: Government Operations GHG Reduction Strategy

Section 4: Adaptation Strategy

Section 5: Implementation and Monitoring

Section 6: References

### APPENDICES

**Appendix A: Climate Change Planning Background** – Provides background information on climate change planning and key plans, policies, and regulations at the State level.

**Appendix B: Vulnerability Assessment** – An assessment of climate change vulnerabilities, used to inform the adaptation strategies and actions included in the CAP.

**Appendix C: Applicable General Plan Policies** – Contains a matrix of policies in the County's adopted 2030 General Plan which support climate action.

**Appendix D: Public and Stakeholder Engagement** – Provides an overview of the County's efforts to seek public and stakeholder input on the development of the CAP.

**Appendix E: GHG Inventory, Forecasting and Targets** – Provides detail on the evaluation of historic and forecasted GHG emissions communitywide and from government operations.

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<sup>1</sup> Sacramento County General Plan Update Final Environmental Impact Report (2010), Mitigation Measures CC-1 and CC-2

<sup>2</sup> Resolution of the Board of Supervisors of Sacramento County Declaring a Climate Emergency, December 2020

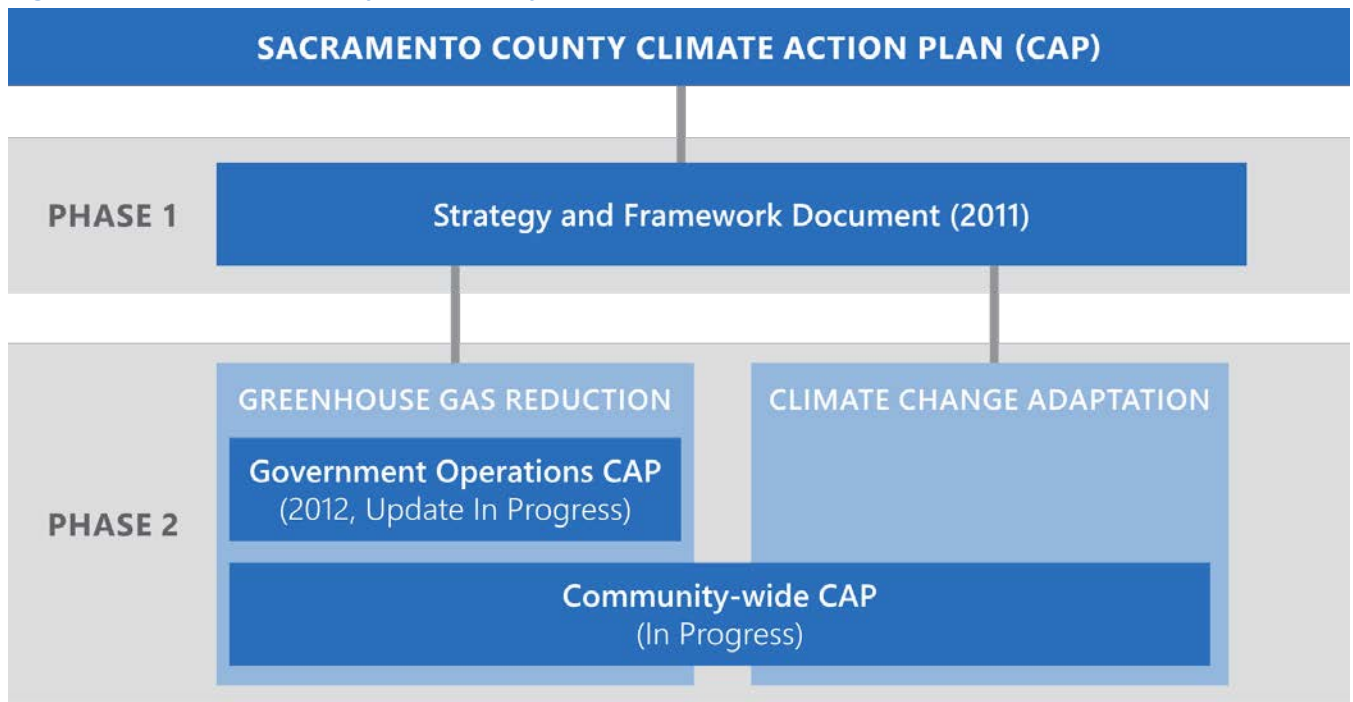
**Appendix F: CAP Measures Considered but Excluded** – Provides a list of CAP measures that were considered for inclusion, but excluded at this stage in the County’s climate action planning process, and the reasoning behind the exclusion.

**Appendix G: Cost Assessment for GHG Reduction Measures** – An evaluation of costs for measure implementation from the perspective of overall measure implementation.

**Appendix H: Glossary Terms and Acronyms** - A glossary of terms and acronyms used throughout the CAP and appendices.

This CAP combines several components prepared by the County in phases into a single document, as illustrated in Figure 1. In Phase 1, the County prepared a Strategy and Framework to guide future planning actions. In Phase 2 the County performed assessments of GHG emissions (Appendix E), climate change vulnerabilities (Appendix C) and developed potential strategies and measures to address gaps in existing County policies. Both phases were guided by public and stakeholder input (Appendix D) and considered the latest climate change science, incorporated into State climate policies and regulations (Appendix A). The result is a set of climate action strategies and measures detailed in the CAP (Sections 2, 3 and 4) that support policies in the adopted General Plan while avoiding redundancy (Appendix C) and infeasibility based on social, technical, and economic factors (Appendix F); and will be monitored and adjusted if necessary, to ensure long-term performance (Section 5). These described components are included in the CAP so that it may serve as the County’s qualified “plan for the reduction of GHG emissions,” in accordance with criteria identified in Section 15183.5 of the California Environmental Quality Act (CEQA) Guidelines. This would allow the CAP to facilitate streamlining of GHG emissions analyses for individual development projects that comply with the requirements in the CAP.

**Figure 1 Sacramento County Communitywide CAP Components**



Source: Sacramento County, 2021.

## 1.2 BASELINE AND FORECAST GREENHOUSE GAS EMISSIONS

The County prepared GHG inventories for community and government operations as detailed in Appendix E. These results are categorized by sector for a baseline year of 2015. Using population, employment, and housing data, the results from the 2015 baseline year were forecast to 2030 for consistency with the target year for this CAP, which is aligned with the County's General Plan and California's 2017 Climate Change Scoping Plan. The effects of Federal and State legislation and regional polices aimed at reducing GHG emissions were included in the forecast. Table 1 provides results of the baseline and forecast GHG emissions for community and government operations. Table 2 provides a list of policies, legislation, and regulations adopted by agencies outside of the County that affect local GHG emissions compared to the County's 2015 baseline.

**Table 1: Sacramento County Baseline and Forecast GHG Emissions by Sector**

Sector	2015 Baseline GHG Emissions (MTCO <sub>2</sub> e/year)	2030 Forecast GHG Emissions (MTCO <sub>2</sub> e/year)
<b>Community GHG Emissions</b>		
Residential Energy	1,193,311	500,099
Commercial Energy	890,603	244,903
On-Road Vehicles	1,671,596	1,468,071
Off-Road Vehicles	196,769	253,857
Solid Waste	352,909	280,694
Agriculture	254,899	193,373
High-GWP Gases	251,085	245,175
Wastewater	27,253	17,139
Water-Related	15,222	0
<b>Total Community GHG Emissions</b>	<b>4,853,647</b>	<b>3,202,311</b>
<b>Government Operations GHG Emissions</b>		
Employee Commute	38,290	31,818
Vehicle Fleet	29,591	30,808
Buildings and Facilities	28,247	23,736
Airports (buildings and facilities)	18,310	15,920
Water-Related	4,665	3,498
Streetlights and Traffic Signals	3,729	2,796
Wastewater	565	597
<b>Total Government Operations GHG Emissions</b>	<b>123,397</b>	<b>109,172</b>

Source: Ascent Environmental 2021.

**Table 2: Legislation or Regional Policies Resulting in County GHG Emissions Reductions by 2030**

Policy	Description
Federal and State Vehicle Efficiency Standards	Federal and state agencies have set tailpipe emissions standards and fuel efficiency standards for medium-and heavy-duty engines and vehicles.
Federal Off-Road Compression-Ignition Engine Standards	The U.S. Environmental Protection Agency (EPA) has established standards for phasing of EPA diesel engine tiers for off-road compression-ignition equipment.
Federal Significant New Alternatives Policy	The EPA has established bans on refrigerants and refrigerant blends that contain ozone-depleting substances.
California Renewables Portfolio Standards	The RPS requires energy utility providers to procure 33 percent of electricity from renewable sources by 2020, 50 percent renewable by 2026, 60 percent renewable by 2030, and 100 percent zero-carbon by 2045.
California Building Energy Efficiency Standards	Requires all new buildings in California to comply with energy efficiency standards established by California Energy Commission (CEC).
Assembly Bill 341	Required California to achieve a 75 percent solid waste diversion target by 2020.
Sacramento Municipal Utilities District Climate Emergency Declaration, 2030 Clean Energy Vision and 2030 Zero Carbon Plan.	Policy for regionwide electricity generation to be zero carbon by 2030 <sup>1</sup> . The 2030 Clean Energy Vision is SMUD's overarching goal to reach zero carbon emissions in their power supply by 2030. The 2030 Zero Carbon Plan, now in development to present to the SMUD's Board in March 2021, will outline how they will reach this goal.
<b>GHG Reductions from these Policies in 2030<sup>1</sup></b>	<b>Community: 2,600,619 MT CO<sub>2</sub>e reduced</b> <b>Government Operations: 54,479 MT CO<sub>2</sub>e reduced</b>

Notes: <sup>1</sup>This zero-carbon electricity generation policy specifically accounts for 852,975 MT CO<sub>2</sub>e reduced. The 2030 Zero Carbon Plan aimed at achieving this goal is still in progress. See Section 2.3 GHG Offset Program for the strategy that the County may use to achieve reductions if the 2030 Zero Carbon Plan is not adopted or fails to meet the utility's stated goals for GHG reduction in the energy sector.

Source: Ascent Environmental 2021.

### 1.3 GREENHOUSE GAS REDUCTION TARGETS FOR 2030

To serve as the County's qualified plan for the reduction of GHGs, the CAP target must be aligned with the State's 2017 Climate Change Scoping Plan. Based on the forecast GHG emissions and population projections, the County is expected to have an emissions rate of 4.8 metric tons of carbon dioxide equivalents (MT CO<sub>2</sub>e) per capita in 2030. This is below the rate of 6 MT CO<sub>2</sub>e per capita by 2030 recommended to local governments by the California Air Resources Board (CARB) in the 2017 Climate Change Scoping Plan<sup>3</sup>. This indicates that the County is on track to meet a legislated State target in 2030, and it is also showing progress toward meeting longer term State goals for GHG reduction under applicable Executive Orders<sup>4</sup>. See Appendix E for more detail on target setting.

The GHG reduction measures contained in Sections 2 and 3 of this CAP will allow for additional reductions to be achieved beyond 4.8 MT CO<sub>2</sub>e per capita forecast, further outpacing the 6 MT CO<sub>2</sub>e per capita recommended by CARB. Their associated quantified GHG reductions and carbon sequestration benefits will be essential for putting the County on a path to achieving the objectives of the community 2030 carbon neutrality goal, established under the Board of Supervisors approved Climate Emergency Resolution, passed in December 2020. The carbon neutrality goal was passed after significant progress had already been made on climate planning activities for the County to adhere to 2030 Scoping Plan and SB 32. Thus, the County's current approach in this CAP is to maintain momentum and get reductions started

<sup>3</sup> [https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping\\_plan\\_2017.pdf?\\_Page=99](https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf?_Page=99)

<sup>4</sup> 80% reduction in statewide GHG emissions by 2050 under Executive Order S-3-05 and statewide carbon neutrality by 2045 under Executive Order B-55-18

sooner rather than later, while providing flexibility for the CAP to be updated later to meet carbon neutrality objectives. Thus, the County's approach to carbon neutrality by 2030 is to proceed with GHG reduction and carbon sequestration measures under this CAP and then expand regional GHG reduction and carbon sequestration programs as part of an overall comprehensive CAP update. The CAP update will coincide with an anticipated update to the County's 2030 General Plan and availability of further guidance on recommended GHG reduction and carbon sequestration measures for carbon neutrality to be included in updates to the California's Climate Change Scoping Plan<sup>5</sup> and Natural and Working Lands Climate Smart Strategy<sup>6</sup>.

## 1.4 EXISTING REGIONAL ACTIONS

The CAP is developed in the context of existing policies occurring within the County that support the reduction of GHG emissions and to prepare the community for the anticipated effects of climate change. These include, but are not limited to:

- ▶ Adopted General Plan policies that guide resource conservation in future land development and transportation planning, as shown in Appendix C.
- ▶ Sacramento County's publication of Transportation Analysis Guidelines in September 2020<sup>7</sup>, establishing Vehicle Miles Traveled (VMT) as the metric for evaluating potential environmental impacts from transportation in new development projects pursuant to Senate Bill 743.
- ▶ County led update to the Sacramento County Local Hazard Mitigation Plan<sup>8</sup>, in coordination with incorporated cities, reclamation districts, and other special districts.
- ▶ SACOG publication of a region-wide Sustainable Communities Strategy in 2019<sup>9</sup>, which provides policies and implementation actions for GHG reductions in the on-road transportation sector, consistent with statewide targets set by CARB.
- ▶ SMAQMD guidance to lead agencies, updated in April 2020, on reducing GHG emissions from new land development projects through best management practices<sup>10</sup> and an Urban Heat Island mitigation project assessing vulnerability and solutions specifically to heat-related climate change impacts<sup>11</sup>.
- ▶ Sacramento County's adoption in December 2020 of GHG significance thresholds for evaluating potential climate change impacts of new projects subject to CEQA.
- ▶ Sacramento County's declaration of a climate emergency in December 2020.
- ▶ Sacramento County's inclusion of an Infill Fee in Development Agreements adopted as part of two specific plans approved in 2020.

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<sup>5</sup> Executive Order B-55-18 to Achieve Carbon Neutrality, Order #3, "CARB shall work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

<sup>6</sup> Executive Order N-82-20, Order #6. Within one year 10/7/2020 order adoption selected state agencies "shall develop a Natural and Working Lands Climate Smart Strategy that serves as a framework to advances the State's carbon neutrality goal and builds climate resilience [sic]."

<sup>7</sup> <https://sacdot.saccounty.net/Documents/A%20to%20Z%20Folder/Traffic%20Analysis/Transportation%20Analysis%20Guidelines%2009.10.20.pdf>

<sup>8</sup> <https://waterresources.saccounty.net/stormready/Documents/LHMP%202020/Public%20Outreach%20FlyerF.pdf>

<sup>9</sup> <https://www.sacog.org/2020-metropolitan-transportation-plansustainable-communities-strategy-update>

<sup>10</sup> <http://www.airquality.org/LandUseTransportation/Documents/Ch6GHG4-25-2020.pdf>

<sup>11</sup> <https://urbanheat-smaqmd.hub.arcgis.com/pages/reports>

- ▶ SMUD operation of energy efficiency programs for County residents with performance tracked by reduction of carbon emissions<sup>12</sup> and adoption of a climate resolution which aims to transition all electricity delivered to customers in Sacramento County to GHG-free sources by 2030<sup>13</sup>.
- ▶ SacRT initiatives which include providing County residents access to microtransit, electric busses, and expanded light rail service<sup>14</sup>.
- ▶ Regional San Sustainability and Innovation programs, which reduce GHG emissions from wastewater produced by Sacramento County residents through water, biogas, biosolids recycling<sup>15</sup>.

## 2 GREENHOUSE GAS REDUCTION STRATEGY

This section outlines specific GHG reduction measures to be implemented within Sacramento County. These include quantified and non-quantified measures. The following sustainability planning strategies were considered when developing the measures.

- ▶ **Clean Energy:** Focuses on providing clean and affordable sources of energy for the County by increasing the use of renewables.
- ▶ **Low and Zero Emissions Vehicles and Equipment:** Support electrification and alternative fuels in on- and off-road vehicles and equipment, as well as fuel efficiency measures that would reduce the amount of gasoline and diesel fuel consumed.
- ▶ **Green Buildings:** Reduce commercial and residential building energy and water consumption, and incorporate design features that reduce or eliminate the need for fossil fuels.
- ▶ **Natural and Working Lands:** Sequester carbon dioxide from the atmosphere by focusing on habitat preservation, increasing urban forest and connected open space, and carbon farming.
- ▶ **Reduced Driving and Alternative Transportation Modes:** Reduce emissions-generating activities by promoting public transit, and alternative modes of transportation such as biking and walking, carpooling, and transit-oriented development

The detailed GHG reduction measure analyses in Sections 2.1 and 2.2 contain the following information for each measure.

- ▶ **Measure:** A description of the program, policy, or project the County will implement that will reduce GHG emissions.
- ▶ **Implementation:** Specific actions the county will take to achieve the described measure objective.
- ▶ **Responsibility:** The County department(s) responsible for implementation.
- ▶ **Timeframe:** When the measure will be implemented, categorized as Near-term (2020-2023), Mid-term (2024-2026), and Long term (2027-2030).
- ▶ **GHG Reduction Potential:** Estimated MT CO<sub>2</sub>e reduced in 2030, if measure is quantified. Non-quantified measures indicated as "Not Quantified".
- ▶ **Sector:** Describes which emissions sector from the GHG Inventory the measure applies to.

<sup>12</sup> <https://www.smud.org/en/Corporate/About-us/News-and-Media/2020/2020/SMUD-first-in-US-to-change-efficiency-metric-to-avoided-carbon>

<sup>13</sup> <https://www.smud.org/en/Corporate/About-us/News-and-Media/2020/2020/SMUD-Board-of-Directors-adopts-climate-emergency-declaration>

<sup>14</sup> <https://www.sacrt.com/apps/sacrt-initiatives/>

<sup>15</sup> <https://www.regionalsan.com/sustainability-innovation>

- **Target Indicator:** Describes metrics that can be used to monitor progress toward goal achievement.

## 2.1 COMMUNITY GREENHOUSE GAS REDUCTION MEASURES

The total estimated GHG emission reduction from all quantifiable community measures is 772,095 MTCO<sub>2e</sub> in 2030.

**Table 1: Summary of Community GHG Reduction Measures**

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MTCO <sub>2e</sub> /year) in 2030 <sup>1</sup>
GHG-01	Carbon Farming	Agriculture	377,692
GHG-02	Urban Forestry	Agriculture	1,681
GHG-03	Urban-Rural Connections	Agriculture	Not Quantified
GHG-04	Energy Efficiency and Electrification of Existing Nonresidential Buildings	Energy - Commercial	16,006
GHG-05	Increase Energy Efficiency in New Commercial Buildings	Energy - Commercial	3,177
GHG-06	Energy Efficiency and Electrification of Existing Residential Buildings	Energy - Residential	177,187
GHG-07	Eliminate Fossil Fuel Consumption in New Residential Buildings	Energy - Residential	66,964
GHG-08	Tier 4 Final Construction Equipment	Vehicles - Off-Road	6,370
GHG-09	Electric Landscaping Equipment	Vehicles - Off-Road	Not Quantified
GHG-10	Electric Vehicle Infrastructure Program	Vehicles - On-Road	34,867
GHG-11	Reduce Vehicle Miles Traveled from New Development	Vehicles - On-Road	22,037
GHG-12	Transportation System Management Plan	Vehicles - On-Road	15,570
GHG-13	Minimum Parking Standards	Vehicles - On-Road	4,634
GHG-14	Improved Transit Access	Vehicles - On-Road	1,854
GHG-15	Improved Pedestrian Network and Facilities	Vehicles - On-Road	1,390
GHG-16	Traffic Calming Measures	Vehicles - On-Road	927
GHG-17	Improved Bicycle Network and Facilities	Vehicles - On-Road	348
GHG-18	Improve Fuel Efficiency Standards	Vehicles - On-Road	Not Quantified
GHG-19	EV Parking Code	Vehicles - On-Road	Not Quantified
GHG-20	Safe Routes to School	Vehicles - On-Road	Not Quantified
GHG-21	Update Community and Corridor Plans	Vehicles - On-Road	Not Quantified
GHG-22	Connecting Key Destinations	Vehicles - On-Road	Not Quantified
GHG-23	Incentivize Infill Development	Vehicles - On-Road	Not Quantified
GHG-24	Increase Organic Waste Diversion	Solid Waste	39,186
GHG-25	Electric Irrigation Pumps	Water	2,205
<b>Total GHG Reduction from Quantified Measures</b>			<b>772,095</b>

Source: Ascent Environmental 2021.



## MEASURE GHG-01: CARBON FARMING

**Measure:** The County will work with local farmers, ranchers, and land managers to promote and increase carbon sequestration on agricultural lands through the development of carbon farming plans.

**Implementation:** Develop a program by 2024 that, through targeted outreach, provides carbon sequestration education and resources to relevant stakeholders (e.g., farmers, ranchers, and land managers). The program will focus on educating stakeholders about the co-benefits of implementing carbon sequestration practices and the variety of financial and technical resources that are currently available to assist farmers and ranchers in implementation. This program may be coordinated with industry groups and non-profits.

**Responsibility:** SM and Agricultural Commissioner

**Timeframe:** Mid-term

**GHG Reduction Potential:** 377,692 MT CO<sub>2</sub>e per year by 2030.

**Sector:** Agriculture

**Target Indicator:** Implementation of a variety of carbon farming practices on agricultural land in Sacramento County. This assumes the following techniques and/or practices:

- ▶ Application of compost instead of synthetic fertilizer to 113,286 acres of cropland by 2030.
- ▶ Grazing Management to improve irrigated pasture conditions, applied to 8,275 acres by 2030.
- ▶ Decrease fallow frequency or add perennial crops to rotations applied to 65,632 acres by 2030.
- ▶ Tillage reduced, eliminated, or changed to strip tilling on 15,191 acres by 2030.

## MEASURE GHG-02: URBAN FORESTRY

**Measure:** The County will maintain and enhance the urban forest to provide shading that improves energy conservation in adjacent dwellings and reduces the urban heat island effect.

**Implementation:** Partner with Sacramento Tree Foundation to use existing programs such as Neighborwoods and NATURE to increase tree canopy, including in redeveloping areas. Priority planting locations shall be in the County's Environmental Justice Communities identified in the Environmental Justice Element. Ensure that trees required to be planted through the Zoning Code are properly maintained to maximize tree health and ensure longevity to realize the benefits of urban trees. Forge partnerships with community cooperatives to organize tree-planting and maintenance events.

**Responsibility:** BP&I, PER, and Regional Parks

**Timeframe:** Near-term

**GHG Reduction Potential:** 1,681 MT CO<sub>2</sub>e per year by 2030.

**Sector:** Agriculture

**Target Indicator:** Track projects where the County has participated in preserving or adding to the urban forest.

## **MEASURE GHG-03: URBAN-RURAL AGRICULTURAL CONNECTIONS**

**Measure:** The County will support the Food Systems Assessment and Food Action Plan described in the General Plan Environmental Justice Element by promoting Farm to Fork concepts.

**Implementation:** Publish on the County website a directory of local providers of Community Supported Agriculture and food delivery services. Publish information on local Farm to Fork events such as the annual Farm to Form Festival and County restaurants and farms participating in Farm-to-Fork weeks.

**Responsibility:** SM and PIO

**Timeframe:** Long-term

**GHG Reduction Potential:** Not Quantified

**Sector:** Agriculture

**Target Indicator:** Publication of described information on County website.

## **MEASURE GHG-04: ENERGY EFFICIENCY AND ELECTRIFICATION OF EXISTING NONRESIDENTIAL BUILDINGS**

**Measure:** The County will develop a program aimed at assisting local utilities with implementing commercial energy efficiency and electrification programs to achieve reductions in energy consumption.

**Implementation:** An outreach program will be developed that provides education strategies that enable commercial energy conservation. Develop online videos targeted toward building owners and tenants that are hosted on the County's website. In addition to education, video tutorials can explain to business owners how to enroll in real time energy use monitoring tools to track energy use compared to historic levels and within the community through the EnergyStar™ Portfolio Manager, or other tools offered by third-party providers.

**Responsibility:** PER and BP&I via the BAC

**Timeframe:** Long-term

**GHG Reduction Potential:** 16,006 MT CO<sub>2</sub>e per year by 2030.

**Sector:** Energy - Commercial

**Target Indicator:** Develop outreach program with an objective to have 25 percent of existing businesses participate in energy efficiency upgrades by 2030.

## **MEASURE GHG-05: INCREASE ENERGY EFFICIENCY IN NEW COMMERCIAL BUILDINGS**

**Measure:** Develop a reach code requiring new commercial and high-rise residential buildings obtaining building permits to meet CALGreen Tier 1 energy performance standards set forth in section A5.203.1 of the 2019 CALGreen Code.

**Implementation:** Prepare an ordinance for review by the Board of Supervisors.

**Responsibility:** BP&I

**Timeframe:** Near-term. Adopt ordinance no later than December 2021.

**GHG Reduction Potential:** 3,177 MT CO<sub>2</sub>e per year by 2030.

**Sector:** Energy - Commercial

**Target Indicator:** Adoption of ordinance and enforcement on commercial buildings obtaining permits after January 1, 2022.

## **MEASURE GHG-06: ENERGY EFFICIENCY AND ELECTRIFICATION OF EXISTING RESIDENTIAL BUILDINGS**

**Measure:** The County will assist local utilities with increasing participation in residential retrofit programs to achieve a reduction in energy consumption.

**Implementation:** These retrofits will involve upgrading to EnergyStar™-certified appliances, more efficient HVAC systems, weatherization, and comprehensive whole home retrofitting. The County will develop and implement a program that provides education on strategies that enable residential energy conservation. Videos featuring energy savings tips will be recorded and hosted on the County's website and a marketing campaign will be developed to advertise the availability of this information. A video shall also be created that shows residents how to monitor their energy use through SMUD and PG&E web interfaces or share their energy use with third parties for more detailed analytics on energy use.

**Responsibility:** PER and BP&I via the BAC with PIO support

**Timeframe:** Mid-term

**GHG Reduction Potential:** 177,187 MT CO<sub>2</sub>e per year by 2030.

**Sector:** Building Energy

**Target Indicator:** Develop outreach program with an objective to have 25 percent of existing residences participate in energy efficiency upgrades by 2030.

## **MEASURE GHG-07: ELIMINATE FOSSIL FUEL CONSUMPTION IN NEW RESIDENTIAL BUILDINGS**

**Measure:** Require all new residential construction in the County to be all-electric.

**Implementation:** The County will develop and adopt an energy reach code requiring all new single-family and multi-family residential buildings obtaining building permits after January 1, 2023 to be designed as all-electric buildings.

**Responsibility:** SM and BP&I

**Timeframe:** Mid-term.

**GHG Reduction Potential:** 66,964 MT CO<sub>2</sub>e per year by 2030.

**Sector:** Building Energy

**Target Indicator:** Adoption of a reach code prior to 2023. All new residential buildings all-electric after January 2023.

## MEASURE GHG-08: TIER 4 FINAL CONSTRUCTION EQUIPMENT

**Measure:** EPA-rated Tier 4 final diesel engines required in new construction projects when electric-powered construction equipment is infeasible or unavailable. Project applicants will include Tier 4 final engines in construction lists prior to receiving building permits.

**Implementation:** Review equipment planned for use in construction during the project application.

**Responsibility:** PER and BP&I

**Timeframe:** Near-term.

**GHG Reduction Potential:** 6,370 MT CO<sub>2</sub>e per year by 2030.

**Sector:** Off-Road Vehicles

**Target Indicator:** 100 percent of diesel-fueled construction equipment achieve Tier 4 final-rated diesel engines by 2030.

## MEASURE GHG-09: ELECTRIC LANDSCAPING EQUIPMENT

**Measure:** The County will work with SMAQMD to establish an incentive program to trade in fossil fuel-powered landscaping equipment with electric versions.

**Implementation:** Create a drop-off point for fossil-fuel powered landscaping equipment at the North Area Recovery Station Household Hazardous Waste Facility, and other appropriate County-operated facilities.

**Responsibility:** DWMR and SM

**Timeframe:** Near-term

**GHG Reduction Potential:** Not quantified.

**Sector:** Off-Road Vehicles

**Target Indicator:** Track the number of vouchers issued for the exchange of fossil-fuel powered lawnmowers, leaf blowers, and weed eaters.

## MEASURE GHG-10: ELECTRIC VEHICLE INFRASTRUCTURE PROGRAM

**Measure:** The County will implement the Sacramento Area Plug-In Electric Vehicle Collaborative's Electric Vehicle Readiness and Infrastructure Plan to increase the electric vehicle (EV) network capacity through infrastructure, fleet changes, funding mechanisms, utility coordination, and education.

**Implementation:** Install EV chargers throughout the community working with third-party EV installers and operators.

**Responsibility:** SM

**Timeframe:** Long-term

**GHG Reduction Potential:** 34,867 MT CO<sub>2</sub>e per year by 2030.

**Sector:** On-Road Vehicles

**Target Indicator:** 390 chargers (4 percent Level 1, 80 percent Level 2, and 16 percent DC Fast Charge) installed by 2030.

## MEASURE GHG-11: REDUCE EMISSIONS FROM NEW RESIDENTIAL AND OFFICE/BUSINESS PROFESSIONAL DEVELOPMENT VEHICLE MILES TRAVELED

**Measure:** The County will achieve a 15 percent reduction in daily VMT compared to the regional average for all new residential and office/business professional development in the County, consistent with Policy CI-5 of the General Plan Circulation Element. Where the target reduction is infeasible for individual projects as determined through the CEQA process, participation in a VMT mitigation program shall be required to offset VMT impacts.

**Implementation:** New proposed residential and office/business professional development projects must demonstrate that project daily VMT per service population is equal to or below the established VMT thresholds established for the applicable land use designation identified in Table CI-1 of the General Plan Circulation Element. Projects which do not meet these VMT thresholds will be required to implement mitigation measures to ensure the VMT targets are met. The following actions related to the development and implementation of mitigation measures would be undertaken:

- ▶ Ensure that all feasible on-site VMT mitigation measures are prioritized and implemented prior to the development of off-site mitigation measures.
- ▶ Develop and adopt a VMT mitigation program (e.g., VMT mitigation fee, bank, or exchange) to offset project-level and cumulative VMT impacts from projects with funding allocated towards VMT improvement projects.

**Responsibility:** PER and SACDOT

**Timeframe:** Near-term

**GHG Reduction Potential:** 22,037 MT CO<sub>2</sub>e per year by 2030.

**Sector:** On-Road Transportation

**Target Indicator:** 15 percent reduction in VMT from forecast new residential and office/business development by 2030.

## MEASURE GHG-12: TRANSPORTATION SYSTEM MANAGEMENT PLAN FOR NON-RESIDENTIAL PROJECTS

**Measure:** The County will review and update Section 5.9.6.F of the Zoning Code, which requires a Transportation System Management (TSM) Plan for qualifying projects, to ensure that the ordinance is comprehensive, enforceable, and consistent with the GHG reduction target.

**Implementation:** The updated TSM Plan will define the minimum trip generation requirements for new non-residential development projects and include a monitoring and reporting mechanism to demonstrate on-going compliance and ensure enforcement. Considerations when reviewing and updating the TSM Plan ordinance should include:

- ▶ project types and sizes required to implement a TSM Plan,
- ▶ development of a preferred/most effective set of TSM measures for developers to choose from,
- ▶ development of monitoring and reporting requirements that developers or property owners would be responsible for submitting to the County on an annual basis, and
- ▶ identification County division responsible for reviewing annual progress reporting of individual projects.

**Responsibility:** SM, PER, and SACDOT

**Timeframe:** Near-term

**GHG Reduction Potential:** 15,570 MT CO<sub>2</sub>e per year by 2030.

**Sector:** On-Road Transportation

**Target Indicator:** Update the Zoning Code to include described TSM Plan requirements by December 2023.

## **MEASURE GHG-13: REVISE PARKING STANDARDS FOR NON-RESIDENTIAL DEVELOPMENT**

**Measure:** The County will study and revise the current parking standards for new non-residential development through changes to the Sacramento County Zoning Code. This measure will consist of the County implementation of reduced minimum parking standards and shared parking requirements. Reducing minimum parking standards allows developers to provide the amount of parking they deem appropriate based on market demand rather than requiring universal parking standards which disregard local data as well as the scale, use, and location of the proposed development. Minimizing parking standards reduces construction costs, shifts development growth patterns, and encourages the use of alternative modes of transportation, thus reducing VMT. Shared parking is a parking management tool that allows parking facilities to be used more efficiently by sharing spaces with more than one user. Most parking spaces are only used part-time and a significant portion of many parking facilities are underutilized.

**Implementation:** The process for updating the parking standards could include the following actions:

- ▶ study of minimum parking requirements based on local data (demand),
- ▶ development of new parking standards based on the local parking demand study, and
- ▶ integration of new parking standards into the Sacramento County Zoning Code.

The inclusion of mutually supportive parking management strategies is recommended for effective implementation and to mitigate potential parking spillover into surrounding areas. These include the following actions:

- ▶ unbundling parking for new developments,
- ▶ requiring residential area parking permits, and
- ▶ implementing on-street parking regulations.

Additionally, the County will update the Zoning Ordinance to require shared parking facilities for uses in new non-residential development that have staggered parking demands at different times of the day.

**Responsibility:** PER

**Timeframe:** Near-term

**GHG Reduction Potential:** 4,634 MT CO<sub>2</sub>e per year by 2030.

**Sector:** On-Road Transportation

**Target Indicator:** Update the parking standards by end of 2022.

## MEASURE GHG-14: IMPROVED TRANSIT ACCESS

**Measure:** The County will support and work with Sacramento RT in addressing identified gaps in public transit networks through implementation of the policies in the General Plan Circulation Element which seek to help by “promoting transit services, assuring that users are provided with adequate transportation choices, addressing user needs, developing convenient transfers between transportation systems, and ensuring adequate funding for the transit network” (Sacramento County 2011).

**Implementation:** The County could implement this measure through the following actions:

- ▶ Provide and improve connections to transit stations by identifying, prioritizing, and seeking funding to plan and construct roadways, bikeways, and pedestrian improvements within a half-mile of existing and planned transit stations.
- ▶ Work with Sacramento RT to expand the local transit network by adding or modifying existing transit service to enhance the service in areas with the greatest need.
- ▶ Work with Sacramento RT to reduce transit-passenger travel time by providing reduced headways and increased speed and reliability along the most heavily traveled transit routes within the County.
- ▶ Explore a potential partnership with Sacramento RT when developing the VMT mitigation program (e.g., VMT mitigation fee, bank, or exchange), which could provide a new funding mechanism for these improvements.

**Responsibility:** PER and SACDOT

**Timeframe:** Long-term

**GHG Reduction Potential:** 1,854 MT CO<sub>2</sub>e per year by 2030.

**Sector:** On-Road Transportation

**Target Indicator:** Completion of actions described in implementation section.

## MEASURE GHG-15: IMPROVED PEDESTRIAN NETWORK AND FACILITIES

**Measure:** The County will update the Pedestrian Master Plan and will implement projects and programs identified in the Pedestrian Master Plan to reduce barriers to walking and increase mobility for all users of the roadways.

**Implementation:** The County will update the Pedestrian Master Plan, or adopt a replacement such as the in-progress Active Transportation Plan to:

- ▶ Identify all gaps in the pedestrian network throughout the County.
- ▶ Identify barriers and constraints to pedestrian mobility in the County.
- ▶ Develop a methodology for prioritizing future pedestrian improvements which could be based on pedestrian demand and deficiency.
- ▶ Develop a pedestrian capital improvement program (CIP).
- ▶ The updates should reference the VMT mitigation program in GHG-11 (e.g., VMT mitigation fee, bank, or exchange), which could provide a new funding mechanism for these improvements.
- ▶ Develop a complete streets policy and implementation program consistent with the SACOG Policy to Practice Cycle to enhance pedestrian mobility.

**Responsibility:** SM and SACDOT

**Timeframe:** Mid-term

**GHG Reduction Potential:** 1,390 MT CO<sub>2</sub>e per year by 2030.

**Sector:** On-Road Transportation

**Target Indicator:** 75 percent of projected identified in the Pedestrian Master Plan built out by 2030.

## **MEASURE GHG-16: TRAFFIC CALMING MEASURES**

**Measure:** The County will implement traffic calming measures to decrease traffic volumes and speeds and increase biking and walking trips by residents.

Traffic calming measures such as marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini circles, on-street parking, planter strips with street trees, and bulb-outs have been shown to divert traffic from local streets and decrease vehicle speeds when present. In turn, those who would otherwise be deterred by high traffic volumes and speeds on local roads are more likely to walk and bike to destinations. Through traffic calming measure requirements for new roadway development and the inclusion of traffic calming features on existing roadways and intersections, the County can encourage residents to take more trips by active transportation modes such as biking and walking.

**Implementation:** The County could implement this measure through the following actions:

- ▶ Develop a complete streets policy and implementation program consistent with the SACOG Policy to Practice Cycle and that incorporates traffic calming measures.
- ▶ Review and potentially update County development standards for new roadways and existing roadway improvements to include traffic calming measures.
- ▶ Install a variety of traffic calming measures on streets and intersections, prioritizing measures proven to promote trips by active transportation modes.
- ▶ Traffic calming measures could be included in, and funded by, a potential VMT mitigation program described in GHG-11 (e.g., VMT mitigation fee, bank, or exchange).

**Responsibility:** SACDOT

**Timeframe:** Long-term

**GHG Reduction Potential:** 927 MTCO<sub>2</sub>e/year by 2030

**Sector:** On-Road Transportation

**Target Indicator:** 25 percent of streets and 25 percent of intersections improved by 2030.

## **MEASURE GHG-17: IMPROVED BICYCLE NETWORK AND FACILITIES**

**Measure:** The County will improve the bicycle network to provide for safe and convenient bicycle travel through implementation of the Bicycle Master Plan and the improvement of bicycle infrastructure.

**Implementation:** The County could implement this measure through the following actions:



- ▶ Implement projects and programs in the Bicycle Master Plan, or related in-progress plans such as the Active Transportation Plan to reduce barriers to biking and increase mobility for all users of the roadways.
- ▶ Update the Zoning Code and/or Design Guidelines to ensure the preferred siting of both short-term and long-term employee bicycle parking to encourage bicycle use at commercial, multi-family, industrial or institutional uses.
- ▶ Participate in multi-jurisdictional bike share programs (e.g., JUMP) with SACOG, Sacramento, West Sacramento, Woodland, and Davis.
- ▶ A future VMT mitigation program (e.g., VMT mitigation fee, bank, or exchange) described under GHG-11 could provide a new funding mechanism for these improvements. Additionally, development of a complete streets policy and implementation program consistent with the SACOG Policy to Practice Cycle would enhance bicycle mobility and safety within the County.

**Responsibility:** SACDOT

**Timeframe:** Long-term

**GHG Reduction Potential:** 348 MTCO<sub>2</sub>e/year by 2030

**Sector:** On-Road Transportation

**Target Indicator:** Improve an additional 30 percent of the projects listed in Appendix G of the County's adopted Bicycle Master Plan<sup>16</sup> following CAP adoption. Include goal in the in-progress Active Transportation Plan.

## MEASURE GHG-18: IMPROVED FUEL EFFICIENCY STANDARDS

**Measure:** Include language in the County's adopted legislative platform to encourage new or revised federal or State legislation to promote the manufacturing, availability, and purchase of more fuel-efficient vehicles.

**Implementation:** Include language meeting the intent of this measure into the 2022 update to the federal and State legislative priorities document.<sup>17</sup>

**Responsibility:** CEO and Legislative Analyst

**Timeframe:** Near-term

**GHG Reduction Potential:** Not quantified.

**Sector:** On-Road Transportation

**Target Indicator:** Include this as part of the legislative platform for all annual updates to the document until 2030.

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<sup>16</sup> [https://sacdot.saccounty.net/Documents/A%20to%20Z%20Folder/Bikeways/AdoptedSacCountyBMP\\_04.27.11.pdf](https://sacdot.saccounty.net/Documents/A%20to%20Z%20Folder/Bikeways/AdoptedSacCountyBMP_04.27.11.pdf)

<sup>17</sup> <https://legadv.saccounty.net/Documents/FederalandStatePriorities.PDF>

## MEASURE GHG-19: EV PARKING CODE

**Measure:** Amend the Building Code and Development Standards to require minimum EV charging capability in multi-family residential and commercial projects consistent with Tier 1 Standards contained in the CALGreen Code.

**Implementation:** For multi-family this requires that fifteen percent of parking spaces support future Electric Vehicle Supply Equipment (EVSE) charging, consistent with section A4.106.8.2 of the CALGreen code. For commercial this requires that a specific proportion of total required parking spaces must support future EVSE charging, consistent with section A5.106.5.3.1 of the CALGreen code. The measures shall also include signage requirements in the building code for EV charging facilities for both wayfinding and parking restrictions.

**Responsibility:** PER and BP&I

**Timeframe:** Near-term

**GHG Reduction Potential:** Not Quantified.

**Sector:** On-Road Transportation

**Target Indicator:** Amendment of building code and development standards to require EVSE installations at multi-family and commercial projects. This code amendment can occur concurrently with the reach codes for building energy specified in GHG-05 and GHG-07.

## MEASURE GHG-20: SAFE ROUTES TO SCHOOL

**Measure:** Improve walking and bicycling safety and access to and from schools in the County.

**Implementation:** The County will implement the CAN Goes to School Program and work with local organizations such as WALKSacramento to improve safety among children traveling to school via walking, biking, or riding in a vehicle. Additionally, the County will include analysis of safe routes to school within the Active Transportation Plan update and will factor it in to the prioritization of improvements in that Plan.

**Responsibility:** SACDOT

**Timeframe:** Near-term

**GHG Reduction Potential:** Not Quantified

**Sector:** On-Road Transportation

**Target Indicator:** Participation in CAN Goes to School Program, and update of the Active Transportation Plan to include safe routes to school.

## MEASURE GHG-21: UPDATE COMMUNITY AND CORRIDOR PLANS

**Measure:** The County will update Community Plans and Corridor Plans in urban areas to support infill development, transit-oriented development, and mixed-use development projects.

**Implementation:** Ensure that a balanced approach to housing, jobs/economic development, services, and infrastructure needs are incorporated into the Community and Corridor Plans. The Plan updates would

achieve mixed-use and transit-oriented development within existing population centers. Updates would include:

- ▶ Define core areas within the plan areas that would include affordable housing units and mixed-use development with possible mechanisms to increase density.
- ▶ Updates include “Complete Streets” that include sidewalk and bike lane improvements.
- ▶ Include information on public amenities and community services in the core area, which could include parks, libraries, schools or community centers. Information on agencies, organizations and districts providing amenities will also be provided.

**Responsibility:** PER

**Timeframe:** Mid-term

**GHG Reduction Potential:** Not Quantified

**Sector:** On-Road Transportation

**Target Indicator:** Update of Community and Corridor Plans in urban areas to include the features described in the implementation section.

## **MEASURE GHG-22: CONNECTING KEY DESTINATIONS**

**Measure:** The County will promote better connections by all travel modes between residential neighborhoods and key commercial, cultural, recreational, and other community-supportive destinations for all travel modes through Policies CI-3 and CI-4 of the General Plan Circulation Element and associated implementation measures. This measure is connected to GHG-15 and GHG-17.

**Implementation:** When plans for development projects are submitted by applicants for review, the County will evaluate whether residential neighborhoods can access commercial, cultural, recreational, and other community-supportive destinations, by bicycle, walking, or using public transportation.

**Responsibility:** PER, SACDOT, and Regional Parks

**Timeframe:** Long-term

**GHG Reduction Potential:** Not quantified

**Sector:** On-Road Transportation

**Target Indicator:** The County will develop a GIS-based scoring system to screen new development applications for accessibility to amenities. The scoring system will set minimum point total for compliance, which will be the sum of points assigned to community-supportive destinations (e.g. community centers, churches, schools, grocery stores, parks) within a certain range using the following transportation modes

- ▶ Walking: ¼ mile walk from proposed residential development via continuous and direct pedestrian connections.
- ▶ Bicycling: ½ mile bike ride from proposed residential development, via continuous and direct bicycle connections (multi-use paths, on-street bike lanes).
- ▶ Driving: within a 5-minute drive from proposed residential development

## MEASURE GHG-23: INCENTIVIZE INFILL DEVELOPMENT

**Measure:** The County will facilitate and incentivize high quality infill development in the County that is likely to result in reduced vehicles miles traveled and air pollutant and greenhouse gas emissions in the County.

**Implementation:** The County has several approved and pending master plans (Table 4) in locations that contribute to increased VMT and associated greenhouse gas emissions.

**Table 4: Master Plans in Sacramento County**

	Master Plan Name	Status
1.	Vineyard Springs Comprehensive Plan	Approved
2.	North Vineyard Station Specific Plan	Approved
3.	Florin-Vineyard Community Plan	Approved
4.	Elverta Specific Plan	Approved
5.	Easton Special Planning Area/Land Use Master Plans	Approved
6.	Cordova Hills Master Plan	Approved
7.	NewBridge Specific Plan	Approved
8.	Jackson Township Specific Plan	Pending
9.	West Jackson Highway Specific Plan	Pending
10.	Mather South Community Master Plan	Approved
11.	Natomas Vision Area	Multiple Pending (12 and 13)
12.	Grandpark Specific Plan	Pending
13.	Upper Westside Specific Plan	Pending
14.	Rancho Murieta	Approved, Portions Pending

Source: Sacramento County Planning and Environmental Review

Developers/builders of projects in Table 4 and any future master plans yet to be proposed, shall pay the County the total sum of \$1,000 for each Dwelling Unit Equivalent (DUE) (the Infill Fee); provided that the Infill Fee shall not be paid for any unit constructed on any parcel dedicated to the SHRA pursuant to an applicable Affordable Housing Strategy. Beginning January 1, 2022, the fee shall be adjusted annually on each January 1 based upon the Engineering News Record Construction Cost Index. This fee shall be paid to County upon issuance of a building permit for development within the respective master plan area and deposited into a separate account dedicated to facilitating infill development. The Infill Fees shall be used by County only for the purposes of facilitating infill development in the urban, unincorporated portion of the County in locations targeted for infill development.

## MEASURE GHG-24: INCREASE ORGANIC WASTE DIVERSION

**Measure:** Divert 75 percent of organic waste deposited into landfills from both commercial and residential sources by 2045, up from 2015 rates of 52 and 56 percent, respectively.

**Implementation:** Increase local capacity for composting and processing of organic wastes.

**Responsibility:** DWMR

**Timeframe:** Mid-term

**GHG Reduction Potential:** 39,186 MT CO<sub>2</sub>e per year by 2030.

**Sector:** Solid Waste

**Target Indicator:** Full compliance with AB 1826 and SB 1383

## **MEASURE GHG-25: ELECTRIC IRRIGATION PUMPS**

**Measure:** The County will work with SMAQMD, SMUD, or provide incentives through existing programs such as CARB's FARMER program to convert stationary diesel- or gas-powered irrigation pumps to electric pumps that are either connected to the grid or use off-grid alternative/renewable energy sources, such as solar.

**Implementation:** Modeling assumes that there are approximately 100 fossil fuel powered irrigation pumps operating in Sacramento County. All pumps would be converted to electric pumps with zero emissions under this measure.

**Responsibility:** EMD, SCWA, and Agricultural Commissioner

**Timeframe:** Mid-term

**GHG Reduction Potential:** 2,205 MT CO<sub>2</sub>e per year by 2030.

**Sector:** Agriculture

**Target Indicator:** Track progress using SMAQMD permit data on stationary source emissions from irrigation pumps.

## 2.2 GOVERNMENT OPERATIONS GREENHOUSE GAS EMISSIONS REDUCTIONS

The total estimated GHG emission reduction from all quantifiable internal operations measures is 21,040 MTCO<sub>2e</sub> in 2030. Table 5 provides a summary of each of the measures in this section.

**Table 5: Summary of Government Operations GHG Reduction Measures**

Measure Number	Measure Name	GHG Reductions (MTCO <sub>2e</sub> /year) in 2030 <sup>1</sup>
GOV-EC-01	Employee Transportation Program	Not Quantified
GOV-EC-02	Transit Subsidy Program	2,500
GOV-EC-03	Employee Shuttle System	Not Quantified
GOV-EC-04	Secure Bicycle Storage Facilities	Not Quantified
GOV-EC-05	Carpool at Work Incentives	Not Quantified
GOV-FL-01	Fleet Conversion Program	2,851
GOV-FL-02	Renewable CNG for On and Off-Road Fleets	4,334
GOV-FL-03	Renewable Diesel for On and Off-Road Fleets	4,975
GOV-BE-01	Green Building Policy	5,668
GOV-BE-02	Solar for County Buildings	Not Quantified
GOV-BE-03	Employee Green Building Training	Not Quantified
GOV-AR-01	Airport Fleet Replacement	713
GOV-WA-01	Water Efficiency Policy	0
GOV-WA-02	Turf Landscape Irrigation Audit	Not Quantified
GOV-WA-03	Water Efficient Equipment	Not Quantified
GOV-ST-01	Streetlight Conversion	0
<b>Total GHG Reductions from Quantified Measures</b>		<b>21,040</b>

Source: Ascent Environmental 2021.

### GOV-EC-01: EMPLOYEE TRANSPORTATION PROGRAM

**Measure:** Reduce VMT from employees commuting.

**Implementation:**

- ▶ Establish a post-COVID work from home program with a goal of 30 percent of staff days worked to be conducted remotely;
- ▶ Allow all full time staff, including managers, to opt-in to alternative work schedules (e.g. 9/80, 4/10 and flextime) to reduce VMT;
- ▶ Identify improvements to the program based on the feedback from the 2010 employee commute survey;
- ▶ Assign a staff position under the Chief of Fleets (or CEO's office) to establish and operate a County Employee Transportation Demand Management Program;
- ▶ Promote and encourage employee participation in regional and national bike-to-work days/months;
- ▶ Provide incentives to employees who bike to work separate from the regional/national bike events;

- ▶ Waive parking fees for employees driving EVs at all county facilities, as feasible.

**Responsibility:** SM and Chief of Fleets

**Timeframe:** Near-term

**GHG Reduction Potential:** Not quantified.

**Sector:** On-Road Transportation

**Target Indicator:** Establishment of a program that includes the described implementation objectives.

## **GOV-EC-02: TRANSIT SUBSIDY PROGRAM**

**Measure:** The County will increase participation in transit subsidy program for County employees.

**Implementation:** Increase awareness and expand the incentives for applying to the program.

**Responsibility:** SM and Chief of Fleets

**Timeframe:** Near-term

**GHG Reduction Potential:** 2,500 MTCO<sub>2</sub>e/year by 2030

**Sector:** On-Road Transportation

**Target Indicator:** 10 percent participation in transit subsidy program by 2030

## **GOV-EC-03: EMPLOYEE SHUTTLE SYSTEM**

**Measure:** The County will conduct a study of travel patterns by County employees to determine the feasibility of a shuttle system that would bring employees from major transit stations to County offices. The County may collaborate with other major employers in the region to promote ridership.

**Implementation:** Prepare a study of potential shuttle routes.

**Responsibility:** SM

**Timeframe:** Mid-term

**GHG Reduction Potential:** Not quantified.

**Sector:** On-Road Transportation

**Target Indicator:** Preparation of a study.

## **GOV-EC-04: SECURE BICYCLE STORAGE FACILITIES**

**Measure:** The County will site both short-term and long-term bicycle parking in convenient and secure locations at all County buildings to better encourage commuting via bicycle.

**Implementation:** Add employee bicycle parking at buildings where it does not currently exist.

**Responsibility:** SM and DGS

**Timeframe:** Mid-term

**GHG Reduction Potential:** Not quantified

**Sector:** On-Road Transportation.

**Target Indicator:** Additional number of parking spaces added.

## **GOV-EC-05: CARPOOL-AT-WORK INCENTIVES**

**Measure:** Encourage in-person trips by County staff on official business to be conducted by carpool or public transit.

**Implementation:** Provide carpool-at-work incentives (incentives to encourage employees in all departments to carpool between County offices, to off-site meetings and to field activities). Reimburse County employees for taking public transit for approved business travel.

**Responsibility:** SM and DPS

**Timeframe:** Mid-term

**GHG Reduction Potential:** Not quantified

**Sector:** On-Road Transportation

**Target Indicator:** Monthly employee logging of carpool and public transit use.

## **GOV-FL-01: FLEET CONVERSION PROGRAM**

**Measure:** The County will expand the existing light-duty fleet conversion policy/program with the goal of converting the entire County fleet to vehicles, trucks, and equipment powered by alternative low-carbon fuels, electricity, fuel cells, and/or other technologies as they become financially feasible and based on total cost of ownership life cycle analysis. In addition, the County will increase designated EV parking spaces and provide charging for EVs.

**Implementation:**

- ▶ Allow employees to be reimbursed for charging County-owned or leased vehicles overnight at home, similar to how gasoline-powered VMT are reimbursed.
- ▶ Seek grant funding to pay for infrastructure upgrades or EV charging stations in County-owned parking lots (for use by employees, as well as visitors where appropriate);
- ▶ Install EV chargers at County facilities available for employee and visitor use

**Responsibility:** Chief of Fleets

**Timeframe:** Long term

**GHG Reduction Potential:** 2,851 MT CO<sub>2</sub>e

**Sector:** On-Road Transportation

**Target Indicator:** 30 Level 2 EV chargers installed by 2030 at County-owned parking lots, and 30 percent of new fleet purchases are EVs by 2030.

## **GOV-FL-02: RENEWABLE CNG FOR ON- AND OFF-ROAD FLEETS**

**Measure:** The County will replace traditional CNG fuel with renewable CNG in all County-owned natural-gas-powered vehicles.



**Implementation:** Establish a procurement policy that requires fueling with renewable CNG.

**Responsibility:** Chief of Fleets

**Timeframe:** Near Term

**GHG Reduction Potential:** 4,334 MTCO<sub>2e</sub>/year by 2030

**Sector:** On-Road Transportation, Off-Road Transportation.

**Target Indicator:** 1 million gallons of renewable CNG purchased by 2030.

## **GOV-FL-03: RENEWABLE DIESEL FOR ON- AND OFF-ROAD FLEETS**

**Measure:** The County will replace traditional diesel fuel with renewable diesel for all fleet vehicles.

**Implementation:** Establish a procurement policy that sets a goal for renewable diesel purchases and informs County vehicle operators where renewable diesel can be found within the County.

**Responsibility:** Chief of Fleets

**Timeframe:** Near-term

**GHG Reduction Potential:** 4,975 MTCO<sub>2e</sub>/year by 2030

**Sector:** On-Road Transportation, Off-Road

**Target Indicator:** 100 percent of diesel purchased annually for on-road and off-road vehicles will be renewable diesel by 2030. Estimated to be 487,267 gallons purchased.

## **GOV-BE-01: GREEN BUILDING POLICY**

**Measure:** The County will develop and adopt an internal Green Building Policy

**Implementation:** Policy should set a 30 percent energy reduction target for all existing County buildings compared to current benchmarking. As part of this policy, the County will also design all new County-owned and operated buildings and additions to exceed the energy performance of the 2019 California Energy Code by 10 percent, consistent with CALGreen Tier 1 energy standards established in Section A5.203.1 of the code.

**Responsibility:** DGS and BP&I

**Timeframe:** Mid-Term

**GHG Reduction Potential:** 5,668 MTCO<sub>2e</sub>/year by 2030

**Sector:** Building Energy

**Target Indicator:** 30 percent energy use reduction in County-owned and operated buildings by 2030.

## **GOV-BE-02: SOLAR FOR COUNTY BUILDINGS**

**Measure:** The County will offset 100 percent of its building electricity use with renewable energy.

**Implementation:** Install on-site renewable energy systems or participate in SMUD's commercial SolarShares and/or Greenergy programs.

**Responsibility:** DGS

**Timeframe:** Near-term

**GHG Reduction Potential:** None by 2030 because carbon-free electricity would be available from the grid. GHG reductions could be realized in advance of 2030 CAP target date.

**Sector:** Building Energy

**Target Indicator:** 100 percent of County building electricity use procured from renewable sources by 2030.

## **GOV-BE-03: EMPLOYEE GREEN BUILDING TRAINING**

**Measure:** Provide training for County employees on green building codes.

**Implementation:** The County will support employees in the Office of Planning and Environmental Review and the Building Permits and Inspection Division (including the Planning Director and Chief Building Official) in receiving training on the review and enforcement of CALGreen standards, including the Tier 1 and Tier 2 reach codes. At a minimum, training will be required for all employees responsible for reviewing and approving plans and permits, as well as building inspection supervisors. Certain employees will also be required to be certified according to the International Code Council's CALGreen certification programs or other equivalent programs. Cross-training and certification in other energy code related programs, such as the LEED Accredited Professionals program, California Building Officials (CALBO) Training Institute, and utility or state sponsored energy efficiency education programs will also be encouraged.

**Responsibility:** PER and BP&I

**Timeframe:** Near-term

**GHG Reduction Potential:** Not Quantified.

**Sector:** Building Energy

**Target Indicator:** County staff attendance at training events and accreditation of third-party green building programs.

## **GOV-AR-01: AIRPORT FLEET REPLACEMENT**

**Measure:**

**Implementation:** The County will convert the airport vehicle fleet to vehicles, trucks, and equipment powered by alternative low-carbon fuels, electricity, fuel cells, and/or other technologies as they become financially feasible.

**Responsibility:** SCAS

**Timeframe:** Long term

**GHG Reduction Potential:** 713 MTCO<sub>2e</sub>/year by 2030

**Sector:** On-Road Transportation.

**Target Indicator:** 15 zero-emission electric shuttle buses purchased by 2030

## **GOV-WA-01: WATER EFFICIENCY POLICY**

**Measure:** Improve agencywide water efficiency by formally adopting a water reduction target for new and existing buildings.

**Implementation:** Develop a water efficiency policy that seeks to achieves a 20 percent reduction in water usage below 2015 levels for all County buildings by 2030. Create drought-tolerant demonstration project with interpretive signs at a County building to exhibit native vegetation and high-efficiency irrigation techniques.

**Responsibility:** SM and DGS

**Timeframe:** Short-term

**GHG Reduction Potential:** Not quantified

**Sector:** Water

**Target Indicator:** Adoption of a water efficiency policy.

## **GOV-WA-02: TURF LANDSCAPE IRRIGATION AUDIT**

**Measure:** Reduce excess water consumption associated with watering lawns at county facilities.

**Implementation:** Conduct water audits to evaluate irrigation practices in large turf landscapes around County facilities and modify irrigation practices and equipment accordingly (timers, sprinkler heads, etc.).

**Responsibility:** SM and DGS

**Timeframe:** Mid-term

**GHG Reduction Potential:** Not quantified

**Sector:** Water

**Target Indicator:** Preparation of an audit. Replacement of suboptimal equipment identified in audit with more efficient versions.

## **GOV-WA-03: WATER-EFFICIENT EQUIPMENT**

**Measure:** The County will replace water-wasting equipment with more efficient equipment when grant funds are available from local water purveyor(s).

**Implementation:** Incorporate preferences for water-saving equipment into the County's procurement and capital improvement plans.

**Responsibility:** SM and DGS

**Timeframe:** Long-term

**GHG Reduction Potential:** Will reduce energy consumption, but no GHGs reduced in 2030 because of the availability of carbon neutral-electricity sources.

**Sector:** Water

**Target Indicator:** Records of replaced water equipment each year showing the selection of equipment with efficiencies higher than average.

## GOV-ST-01: STREETLIGHT CONVERSION

**Measure:** Convert streetlights to more energy efficient technologies.

**Implementation:** The County will replace remaining high-pressure sodium (HPS) and mercury-vapor (MV) streetlights with energy-saving LED technology.

**Responsibility:** SACDOT

**Timeframe:** Long-term

**GHG Reduction Potential:** Will reduce energy consumption, but no GHGs reduced in 2030 because of the availability of carbon neutral-electricity sources.

**Sector:** Building Energy

**Target Indicator:** In 2015 there were 10,533 streetlights that were still relying on HPS or MV technology. The County will replace these with LEDs by 2030.

## 2.3 CARBON OFFSET PROGRAM

In addition to the GHG reduction measures described in Sections 2.1 and 2.2, the County may explore a GHG offset program, if needed, to account for any GHG reducing legislation or policies described in Table 2 that fail to come to fruition or meet stated objectives. The offset program would allow for investments in GHG reducing activities occurring outside of the County's control. The success of these investments in reducing GHG emissions would be validated by a third-party organization and be required to be in addition to any GHG emissions reductions required by a plan, policy, or regulation for that activity.

## 2.4 OTHER MEASURES NOT QUANTIFIED

This section includes greenhouse gas reduction measures that have uncertain funding sources and potential implementation challenges at this time. Measures in this section have not been analyzed quantitatively for greenhouse gas emissions reductions. However, these measures are included to establish policy goals and provide a high-level framework should funding become available and/or implementation issues become resolved.

### MEASURE: EV RIDE SHARING AT AFFORDABLE HOUSING

The County will work with regional partners, such as SACOG, Sacramento Housing and Redevelopment Agency, and SMAQMD, to provide EV ride sharing at all new affordable housing developments.

### MEASURE: ELECTRIC AGRICULTURAL EQUIPMENT

The County will work with SMAQMD, SMUD, U.S. Department of Agriculture, or others to provide incentives for replacing gas- or diesel-powered agricultural equipment with electric or alternatively fueled equivalents.

## **MEASURE ELECTRIC OR ALTERNATIVELY FUELED CONSTRUCTION EQUIPMENT**

The County will work with SMAQMD to require new development projects to use electrically powered construction equipment wherever feasible.

## **MEASURE: TIER 4 FINAL AGRICULTURAL EQUIPMENT**

The County will work with SMAQMD to revise Rule 215 – Agricultural Permit Requirements to require any diesel powered agricultural off-road equipment to be EPA-rated Tier 4 final models by 2030, as feasible.

## **MEASURE: ELECTRIFICATION OF MUNICIPAL BUILDINGS**

The County shall develop and implement a plan to electrify and disconnect County-owned facilities from gas service. The County shall ensure that all new construction or major renovation projects involving County-owned facilities are all-electric. All County facilities to be supplied with 100 percent renewable power by 2025.

## **2.5 CARBON NEUTRALITY**

On December 16, 2020, the Sacramento County Board of Supervisors adopted a resolution declaring a climate emergency. This resolution states that the Communitywide CAP shall explain the County's approach to reduce GHG emissions to achieve carbon neutrality by 2030. Carbon neutrality entails a combination of carbon dioxide reduction, as well as removal from the atmosphere.

This measure is included to represent the County's desire to establish a CAP that can be used to propel future change, including carbon neutrality. To this end, this CAP meets SB 32's goal of reducing GHG emissions by 40 percent below the 1990 level by the year 2030 and can be incorporated into the existing General Plan and implemented. As part of a subsequent General Plan and/or CAP update, new policies would be added that reflect the climate emergency resolution, a new communitywide inventory would be performed, and CAP measures would be revised as necessary to meet the carbon neutrality goal.

A phased approach to implementing carbon removal at the local level acknowledges direction in the County's climate emergency resolution that "development and implementation of the plan shall be guided by science, data, best practices and equity concerns." The topics of carbon removal and achieving carbon neutrality are currently being investigated by a consortium of California State agencies under direction of EO N-82-2018, enacted in October 2020. Under this order, agencies are tasked with identifying and implementing near- and long-term actions to accelerate natural removal of carbon and build climate resilience in forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities including low-income, disadvantaged, and vulnerable communities. In addition, the order specifies that by October 2021 the California Natural Resources Agency in collaboration with other State agencies, will develop a Natural and Working Lands (NWL) Climate Smart Strategy that serves as a framework to advance the State's carbon neutrality goal and build climate resilience. CARB is then directed to take into consideration this NWL Climate Smart Strategy and science-based data to update the target for the NWL sector in achieving the State's carbon neutrality goal.

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<sup>18</sup> <https://www.gov.ca.gov/wp-content/uploads/2020/10/10.07.2020-EO-N-82-20-signed.pdf>

In addition to the State agencies' action described above, SMUD recently announced an ambitious goal to remove all carbon emissions from its power supply by 2030. It is the most ambitious carbon reduction goal of any utility in the United States. SMUD is currently developing its plan to achieve this goal.


With expanded actions and framework recommendations for carbon removal currently on the horizon, the County's approach to carbon neutrality by 2030 is to proceed with aggressive GHG reductions, complemented by carbon removal measures under the CAP and then expand carbon removal programs as part of a CAP update following publication of the California Air Resources Board's Climate Change Scoping Plan update, the Natural and Working Lands Climate Smart Strategy, SMUD's carbon zero plan, and in conjunction with the next comprehensive update of the county's General Plan.

### 3 CLIMATE CHANGE ADAPTATION STRATEGY

This section describes the adaptation framework and presents measures that the County will take to address climate vulnerabilities and increase countywide resiliency. Table 6 provides a summary of each of the measures in this section. The adaptation framework follows the process outlined in Phase 3 of the APG and relies on the vulnerability assessment to inform the preparation of the adaptation framework and strategies. Many climate adaptation measures may also reduce GHG emissions, improve public health, and achieve other co-benefits that further the County's sustainability and Environmental Justice goals and improve community resilience.

The adaptation measures are grouped under five overarching goals to address each climate impact:

- ▶ Prepare for Increases in Temperatures and Extreme Heat Days and Heat Waves
- ▶ Prepare for Increased Risk of Wildfire
- ▶ Prepare for Increased Drought
- ▶ Prepare for Increased Flooding
- ▶ Prepare for Sea-Level Rise

The measures within each goal define the programs, policies, and regulations that the County will need to implement to anticipate and adapt to the challenges created by climate change. Consideration for how likely and how soon impacts are expected to occur are included, with specific attention given to those exposures that pose the most serious threats to the County and its residents. This includes identifying responsible County departments and implementation timeframe for each measure. Implementation of many of climate adaptation strategies contained herein will be dependent on partnerships with local, regional, State, and federal agencies and non-government organizations. Where Sacramento County does not have jurisdictional authority (e.g., surface water storage capacity), the appropriate roles of agencies with authority, organizations, and Sacramento County are identified. Implementation timeframes are categorized as Near-term (2020-2023), Mid-term (2024-2026), and Long term (2027-2030). A co-benefit icon () is shown in the benefits evaluation section of adaptation measures, that have a connection to GHG reducing CAP measures in Section 2.

**Table 6: Summary of Adaptation Measures**

<b>Measure Number</b>	<b>Measure Name</b>	<b>Strategy</b>
TEMP-01	Protect Critical Infrastructure Vulnerable to Extreme Heat Events	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-02	Partner with Local Agencies and Utilities on Heat-Related Climate Change Initiatives and Efforts	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-03	Educate Residents of Disadvantaged Communities on Heat-Related Risks and Strategies to Prevent Heat-Related Illness	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-04	Encourage the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-05	Increase Participation in the Sacramento Area Sustainable Business Program	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-06	Partner with Valley Vision to Expand the Business Resiliency Initiative	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-07	Use Cool Pavement Technology and Reduce the Amount of Paved Surfaces	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-08	Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-09	Understand the Tolerance of Current Crop Mixes to Withstand Increased Temperatures	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
FIRE-01	Map and Identify Locations that are Newly at Risk, or at Higher Risk for Fire Hazards	Prepare for Increased Risk of Wildfire
FIRE-02	Coordinate with Federal, State, and Local Agencies to Establish Ecological Recovery Programs	Prepare for Increased Risk of Wildfire
FIRE-03	Update Tree Planting Guidelines to Select Wildfire Resistant Species	Prepare for Increased Risk of Wildfire
FIRE-04	Coordinate and Improve Emergency Preparedness Systems	Prepare for Increased Risk of Wildfire
FIRE-05	Avoid New Development in Very-High Fire Hazard Severity Zones	Prepare for Increased Risk of Wildfire
FIRE-06	Collaborate with Agencies and Organizations on Programs to Reduce Wildfire Hazards	Prepare for Increased Risk of Wildfire
WATER-01	Evaluate Vulnerabilities of Water Supply Systems and Networks and Develop Strategies to Improve Resilience	Prepare for Increased Drought
WATER-02	Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems	Prepare for Increased Drought
WATER-03	Create Incentives and Programs to Transfer Knowledge and Technologies to Assist Farmers with New Production Methods and Drought Tolerance Species	Prepare for Increased Drought
WATER-04	Reduce Potable Water Use in Outdoor Landscaping	Prepare for Increased Drought
WATER-05	Expand Upon Existing Water Conservation Education Outreach Programs for Residents and Businesses	Prepare for Increased Drought
WATER-06	Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity	Prepare for Increased Drought
FLOOD-01	Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events	Prepare for Increased Flooding

Measure Number	Measure Name	Strategy
FLOOD-02	Improve Sewage and Solid-Waste Management Infrastructure	Prepare for Increased Flooding
FLOOD-03	Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions	Prepare for Increased Flooding
FLOOD-04	Coordinate with Federal, State, and Local Agencies to Improve Emergency Evacuation and Supply Transportation Routes	Prepare for Increased Flooding
FLOOD-05	Invest in Use of Pervious Pavements and Landscaping in Developed Areas and Restrict the Use of Paved Surfaces	Prepare for Increased Flooding
FLOOD-06	Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable	Prepare for Increased Flooding
FLOOD-07	Establish an Underground Utilities Program Resistant to Flooding	Prepare for Increased Flooding
FLOOD-08	Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and On-Going Flood-Related Climate Change Initiatives	Prepare for Increased Flooding
FLOOD-09	Research the Tolerance of Current Crop Mixes to Withstand Increased Flooding and Support Aquaculture and Fish Habitat	Prepare for Increased Flooding
FLOOD-10	Expand Vaccination and Educational Programs to Address Vector and Waterborne Diseases	Prepare for Increased Flooding
FLOOD-11	Identify Concrete Channel Restoration Areas	Prepare for Increased Flooding
FLOOD-12	Replant Bare or Disturbed Areas	Prepare for Increased Flooding
FLOOD-13	Update and Implement the County's Local Hazard Mitigation Plan to Address Climate Change-Related Flooding Impacts	Prepare for Increased Flooding
FLOOD-14	Safeguard Freshwater Supply Against Contamination, Degradation, or Loss	Prepare for Increased Flooding
FLOOD-15	Improve Flood Warning and Information Dissemination	Prepare for Increased Flooding
SLR-01	Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures	Prepare for Sea-Level Rise
SLR-02	Support and Monitor Ongoing Analysis of Sea-Level Rise Data	Prepare for Sea-Level Rise
SLR-03	Update the County's Local Hazard Mitigation Plan to Incorporate Sea-Level Rise	Prepare for Sea-Level Rise
SLR-04	Incorporate Sea-Level Rise Effects into Capital Improvement Plans	Prepare for Sea-Level Rise
SLR-05	Guide Future Development Out of Areas Vulnerable to Sea-Level Rise	Prepare for Sea-Level Rise
SLR-06	Create a Comprehensive Outreach Strategy	Prepare for Sea-Level Rise

Source: Ascent Environmental 2021.



### 3.1.1 Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves

#### MEASURE TEMP-01: PROTECT CRITICAL INFRASTRUCTURE VULNERABLE TO EXTREME HEAT EVENTS

**Implementation:** In cases where existing communication, energy, public service, and transportation facilities and infrastructure are found to be vulnerable to extreme heat, bolster and/or upgrade associated infrastructure to be more resilient to periods of high heat (e.g., use of heat-tolerant materials).

**Benefits:** Reinforced and bolstered infrastructure and facilities can reduce the frequency of power outages that can interrupt the functions of business and residences.

**Responsibility:** DGS and SACDOT

Timeframe: Near-term

#### MEASURE TEMP-02: PARTNER WITH LOCAL AGENCIES AND UTILITIES ON HEAT-RELATED CLIMATE CHANGE INITIATIVES AND EFFORTS

**Implementation:** Partner with the SMAQMD, SMUD, Pacific Gas & Electric (PG&E), and SACOG to implement future and on-going heat-related climate change initiatives. The County's partnership in ongoing programs and future initiatives could include helping other organizations increase participation in existing programs through education and promotion, and by using and integrating them in County programs and activities, where feasible. Examples include but are not limited to participation in SMAQMD's Regional Urban Heat Island Initiative, Sacramento Tree Foundation Shade Tree and Neighborwoods Programs; PG&E's Energy Efficient Cool Roof program; and SACOG's Complete Streets GHG reduction measures.

**Benefits:** Implementation of this action, which includes both leveraging and supporting existing programs, as well as partnering on the development of future initiatives, can mitigate the effects of the UHIE, which produces excess heat from surfaces that absorb heat. Reducing the UHIE results in less reliance on air conditioning, which decreases energy use, susceptibility to heat-borne illness, and exposure to poor air quality.

**Responsibility:** SM

Timeframe: Near-term

#### MEASURE TEMP-03: EDUCATE RESIDENTS OF DISADVANTAGED COMMUNITIES ON HEAT-RELATED RISKS AND STRATEGIES TO PREVENT HEAT-RELATED ILLNESS

**Implementation:**

- ▶ Continue coordinating with the National Weather Service on delivering robust, multi-lingual education and outreach materials accessible across multiple media forms (e.g., radio, text messaging) to publicize the symptoms and dangers of heat-related illness, where cooling centers are located, how to sign up for Sacramento Alert Emergency Notification System, and practical methods for preventing heat-related illness during periods of high heat.

- ▶ County of Department Public Health should track heat-related illness, hospitalizations, and deaths in order to target education and outreach efforts.
- ▶ Expand partnerships with local governments, non-government organizations, churches, and businesses to provide additional cooling centers within disadvantaged communities, where households and residents may not have access to air conditioning during periods of extreme heat.
- ▶ Survey disadvantaged communities to collect data regarding the appropriate location and accessibility of cooling centers, based on community preference and proximity to public transit.

**Benefits:** Improved outreach regarding safety during extreme heat and establishment of more cooling centers in disadvantaged areas will reduce exposure to heat-related illness. Inclusion in the Sacramento Alert Emergency Notification System informs Sacramento County residents of upcoming heat waves and the locations of cooling centers, which will allow residents to plan ahead for extreme weather.

**Responsibility:** SM

**Timeframe:** Near-term

## **MEASURE TEMP-04: ENCOURAGE THE INSTALLATION OR USE OF COOL-ROOF TECHNOLOGIES, PASSIVE SOLAR HOME DESIGN, GREEN ROOFS, AND ROOFTOP GARDENS**

### **Implementation:**

- ▶ Adopt a mandatory Green Building code that requires installation of cool roof technologies for new development consistent with the 2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Building Code, Title 24, Part 6). Cool roofs are designed to maintain a lower roof temperature than traditional roofs that are heated through sun exposure and contribute to the UHIE. Cool roofs are composed of surfaces that reflect sunlight and absorb less heat, which reduces heat flow into buildings and lowers energy usage and associated costs (U.S. Department of Energy [DOE] 2010).
- ▶ Develop incentive programs including, but not limited to, permit streamlining, permit fee reductions, or tax rebates for developers and landowners to apply passive solar home design to future residential buildings. A home that employs passive solar home design has windows oriented toward the south, is composed of materials of high heat absorption, and is built to distribute heat and cold air throughout the home. Use of these design elements provides natural cooling and heating and reduces energy demand.
- ▶ Develop incentive programs including, but not limited to permit streamlining, permit fee reductions, or tax rebates to encourage the use of rooftop gardens and green roofs in residential and commercial buildings. Rooftop gardens are gardens on rooftops and green roofs (or living roofs) are roof tops that are partially or completely covered by vegetation. These forms of roofing lower the amount of heat absorbed by a building and reduces energy demand associated with air conditioning.

**Benefits:** The use of cool roofs, passive design, rooftop gardens, and green roofs will mitigate the effects of UHIE, lower energy consumption, and improve air quality. This measure will also have co-benefits related to water conservation and addressing air quality impacts from increased wildfire risk.

**Responsibility:** SM, PER, and BP&I

**Timeframe:** Near-term

## MEASURE TEMP-05: INCREASE PARTICIPATION IN THE SACRAMENTO AREA SUSTAINABLE BUSINESS PROGRAM

**Implementation:** Increase funding and staff resources for the Sacramento Area Sustainable Business Program through the County's Business Environmental Resources Center (BERC), with the goal of increasing overall participation and certification in the program and implementing annual monitoring of businesses that adopt practices to reduce energy consumption and promote energy efficiency, along with other sustainability measures.

**Benefits:** Increasing participation and monitoring of the existing Sustainable Business Program will result in reduced energy usage.

### Co-Benefit

This measure will have co-benefits related to water conservation, as well as other actions with respect to transportation, solid waste, and other actions that will contribute to community GHG emissions reductions and supports government operations GHG reduction measure GOV-BE-03.

**Responsibility:** SM, and BERC

**Timeframe:** Near-Term

## MEASURE TEMP-06: PARTNER WITH VALLEY VISION TO EXPAND THE BUSINESS RESILIENCY INITIATIVE

**Implementation:** Partner with Valley Vision to train businesses to use the BRI toolkit which will prepare business for weather-related risks to daily operations. Aspects of the BRI toolkit include:

- ▶ preparation of a hazard vulnerability assessment, which identifies the greatest risks and hazards facing individual businesses;
- ▶ review of existing resiliency;
- ▶ development of a business continuity plan;
- ▶ testing of business continuity plans through drills and exercises; and
- ▶ engagement in community outreach

**Benefits:** Increased participation in the BRI and use of the toolkit would result in increased resiliency on a business-by-business basis during power outages induced by extreme heat events. Businesses would be responsible for conducting self-evaluations to identify assets at risk or vulnerable to weather-related disturbances that include extreme heat events, but also other extreme events such storms, floods, or fires. This measure will have co-benefits related to changes in precipitation, wildfire, and flood risk.

**Responsibility:** SM, and ED

**Timeframe:** Near-term

## MEASURE TEMP-07: USE COOL PAVEMENT TECHNOLOGY AND REDUCE THE AMOUNT OF PAVED SURFACES

**Implementation:**

- ▶ Require the use of cool pavement technology in both the replacement and construction of new roads, sidewalks, parking areas, and bikeways. Cool pavement reduces the effects of UHIE by reflecting sunlight and absorbing less heat as compared to traditional pavement. Pavement reflectance can be enhanced through the use of reflective aggregate, reflective or clear cinder, or a reflective surface coating (Heat Island Group 2017).
- ▶ Develop and incorporate cool pavement standards into the County's roadway design manual for use in public rights-of-ways.
- ▶ Develop and incorporate cool pavement standards into the County's development standards for private development projects, in both new construction and changes to existing on-site paved surface areas (e.g., parking lots, private roadways, or other hardscape areas).
- ▶ Apply cool pavement standards when constructing new County-owned facilities or modifying existing County-owned facilities.
- ▶ Collaborate with the CRCRC, the California Environmental Protection Agency (CalEPA), the UC Davis Cool Pavement Research Center, and other regional partners to obtain guidance, explore pilot projects, or other technical support for implementation of actions under Measure Temp-9. (Note: this action could also be achieved collaboratively with others as part of the regional UHIE initiative described earlier under Action Temp-2.1).

**Benefits:** Incorporation of cool pavements into maintenance of existing and construction of new paved surfaces would lower the amount of heat absorbed compared to traditional paving materials. Cool pavements would lessen the impacts of UHIE, which would result in reduced exposure to heat-related illness, decreased building energy consumption and associated GHG emissions, and improved air quality. This measure will support measures related to flood risk.

#### Co-Benefit

Supports GHG reduction measures GHG-02, GHG-04, and GHG-05

**Responsibility:** SM, PER, and BP&I

**Timeframe:** Near-term

## MEASURE TEMP-08: INCREASE PARKING LOT SHADING, LANDSCAPING, AND URBAN GREENING, PRIORITIZING COMMUNITIES WITH LESS TREE COVER

### Implementation:

- ▶ Enforce the existing parking lot shading coverage requirements (i.e., 30 percent coverage for 5-24 parking spaces, 40 percent coverage for 25-29 parking spaces, and 50 percent coverage for 50+ parking spaces) for new development projects that include parking, and revised parking lot shading standards to provide larger minimum sizes for tree planters to improve tree health.
- ▶ Enforce existing standards for tree shading and landscaping in existing parking lots not in compliance and establish a compliance program to ensure that trees are maintained properly.
- ▶ Establish rebate programs, permit fee reductions, or tax deductions to incentivize the installation of solar photovoltaic (PV) carports in existing and future parking lots. Solar PV carports provide shade in parking lots while simultaneously converting solar energy into electricity that can be used to charge electric vehicle and plug-in hybrid-electric vehicles.

- ▶ Amend the County Zoning Code to allow solar PV carports to fulfill a portion or all of the existing parking lot shading requirements and provide guidance on the appropriate mix between the use of trees and PV carports.
- ▶ Develop standards for the inclusion of solar PV carports in County-owned parking lots.
- ▶ Collaborate with CRC, the Sacramento Tree Foundation, SMUD, PG&E, or other regional partners to identify incentives, grants, or other resources for the purposes of commercial and residential greening actions including, but not limited to, planting of parking lot or street trees, maintaining tree health, and establishing community gardens.

**Benefits:** Enforcement of County standards regarding shading requirements for parking lots, minimum standards for planter box sizes, incorporation of solar PV on carports, and urban greening programs will provide shade during extreme heat events and further reduce the effects of the UHIE, which will lower temperatures in urban areas and improve air quality.

**Co-Benefit**

Supports GHG reduction measure GHG-02, GHG-04, and GHG-05

**Responsibility:** SM, PER, Code Enforcement, and DGS

**Timeframe:** Mid-term

## MEASURE TEMP-09: UNDERSTAND THE TOLERANCE OF CURRENT CROP MIXES TO WITHSTAND INCREASED TEMPERATURES

**Implementation:** Actively engage with the agricultural sector to understand the tolerance of current crop mixes to withstand increased temperatures, disease, and pests, and explore options to diversify and shift to drought-tolerant crops that can be cultivated in a warmer environment.

**Benefits:** Diversifying Sacramento County’s crops will reduce the potential for crop loss from excessive pests, disease, and increased temperatures and will improve the industry’s adaptive capacity.

**Responsibility:** SM and Agricultural Commissioner’s Office

**Timeframe:** Mid-term

### 3.1.2 Prepare for Increased Risk of Wildfire

## MEASURE FIRE-01: MAP AND IDENTIFY LOCATIONS THAT ARE NEWLY AT RISK, OR AT HIGHER RISK FOR FIRE HAZARDS

**Implementation:** Work with CAL FIRE, Metro Fire, and any other fire department operating within the boundaries of the County to map and identify locations within the County that are newly at risk, or at higher risk, for wildfire hazards as a result of climate change and its impacts. Wildfire hazards may include direct damage to the American River Parkway, structures, electrical transmission, transportation, and communication infrastructure; increased rates of erosion, landslide, and water quality degradation; and ecological disturbance.

**Benefits:** Mapping and identifying locations that are already at high risk or will be with climate change would advise the implementation of Measure Fire-2 listed below.

**Responsibility:** SacOES and GIS

**Timeframe:** Near-term

## **MEASURE FIRE-02: COORDINATE WITH STATE, AND LOCAL AGENCIES TO ESTABLISH ECOLOGICAL RECOVERY PROGRAMS**

**Implementation:** Coordinate with CAL FIRE, Metro Fire and other similar agencies to establish ecological recovery programs to support ecological restoration efforts.

**Benefits:** Implementation of ecological restoration strategies in existing burned or potentially future burned areas would encourage the regrowth of natural ecosystems that may have been damaged during wildfire events. Ecological restoration would include establishment of native ecological systems and processes that would reduce the potential for high-intensity wildfires and improve ecological resiliency to wildfire events.

**Responsibility:** SM

**Timeframe:** Near-Term

## **MEASURE FIRE-03: UPDATE TREE PLANTING GUIDELINES TO SELECT WILDFIRE RESISTANT SPECIES**

**Implementation:** Consult with the Sacramento Tree Foundation and SelecTree to identify wildfire resistant species and the appropriate species of trees for fire hazard severity zones. Incorporate such recommendations into updates to landscaping standards and tree planting guidelines in County Code or other appropriate documents.

**Benefits:** Selecting wildfire-resistant or fire hazard severity zone appropriate species would help mitigate wildfire risk while allowing the County to continue to expand tree planting efforts that result in improved air quality and urban heat island mitigation.

**Responsibility:** PER

**Timeframe:** Near-term

## **MEASURE FIRE-04: COORDINATE AND IMPROVE EMERGENCY PREPAREDNESS SYSTEMS**

**Implementation:**

- ▶ Coordinate with Metro Fire, CAL FIRE, CalOES and City of Sacramento Fire Departments to identify strategies to ensure capacity and resilience of escape routes potentially compromised by wildfire, including emergency evacuation and supply transportation routes.
- ▶ Improve upon educational outreach regarding emergency supplies, evacuation routes, pet protection, and key terminology (e.g., controlled/prescribed burn, fuel load), as well as frequently updating the Sacramento Ready webpage to include current information.
- ▶ Provide input to Metro Fire and CAL FIRE to establish reliable wildfire monitoring systems that provide early warning of high wildfire risk and wildfire occurrence and include evaluation of ecological and human impacts of wildfire.

**Benefits:** Improve the efficacy of evacuation procedures, reliability of emergency supplies, and distribution of wildfire risk information. Establishment of wildfire monitoring systems would provide up-to-date data with respect to areas considered at high risk for wildfire breakouts and improve Sacramento County's ability to prepare and combat wildfire-related impacts.

**Responsibility:** SacOES

**Timeframe:** Near-Term

## **MEASURE FIRE-05: AVOID NEW DEVELOPMENT IN VERY-HIGH FIRE HAZARD SEVERITY ZONES**

**Implementation:** Avoid new development in Very-High Fire Hazard Severity Zones according to the most recent and available CAL FIRE Hazard Severity Zones maps and consider projections of future climate change when planning future land uses.

**Benefits:** Avoiding locating new developing in CAL FIRE designated Very-High Fire Hazard Severity Zones would limit human exposure to potential wildfire.

**Responsibility:** PER

**Timeframe:** Mid-Term

## **MEASURE FIRE-06: COLLABORATE WITH AGENCIES AND ORGANIZATIONS ON PROGRAMS TO REDUCE WILDFIRE HAZARDS**

**Implementation:**

- ▶ Collaborate with Sacramento County Regional Parks Department, Metro Fire, and other Sacramento County-based fire districts to continue to reduce wildfire hazards, including but not limited to, enforcing defensible space guidelines for existing and new development, restoring wildfire-resilient conditions by thinning and removing live or dead vegetation and implementing wildfire fuel reduction action plans, and retaining healthy native trees.
- ▶ Collaborate with the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service, CRC, the American River Parkway Foundation, the Sacramento County Regional Parks Department, the Sacramento River Watershed Program, and other local stakeholders in developing Resource Management Plans (RMPs) for the Sacramento and American Rivers.

**Benefits:** An integrated approach among agencies and organizations to reduce wildfire hazards within the County would ensure that effective fire management extends to a broad geographical area resulting in a more comprehensive protection against future wildfire events.

**Responsibility:** SM, Code Enforcement, and Regional Parks

**Timeframe:** Mid-Term

### 3.1.3 Prepare for Increased Drought

#### MEASURE WATER-01: EVALUATE VULNERABILITIES OF WATER SUPPLY SYSTEMS AND NETWORKS AND DEVELOP STRATEGIES TO IMPROVE RESILIENCE

##### Implementation:

- ▶ Establish a schedule to routinely evaluate the vulnerability of the water supply systems and networks to climate change-related impacts and develop strategies to add resilience to these systems. Resilient water supply systems must be able to deliver services during disruptive events (e.g., storms, drought).
- ▶ Adopt municipal codes to enforce standards of resiliency for water-related infrastructure for all future development. Municipal codes may include, but are not limited to, standards related to elevation of electrical generators and/or tanks and containers of hazardous materials, increased capacity of water storage tanks, and improved deployment of backflow preventers to impede contamination of drinking water following an extreme weather event (e.g., storms).
- ▶ Continue to participate in and support the efforts of the Sacramento Water Forum to promote comprehensive and effective water management and support aquatic ecosystem protection.
- ▶ Collaborate with experts and other agencies to identify potential hazards (e.g., floods, drought) in sites of new infrastructure, assess the vulnerabilities associated with identified hazards, and use appropriate materials and establish adequate capacities for new infrastructure.
- ▶ Support the projects of the Sacramento River Watershed Program aimed to improve water quality, streamflow, flood management, and watershed stewardship in the Sacramento River and the Lower American River Watersheds.
- ▶ Conduct ongoing maintenance of existing water supply-related infrastructure to identify potential weaknesses and deterioration.

**Benefits:** Resiliency improvements made to Sacramento County's water supply systems and networks would also serve to improve the County's resiliency to flooding.

**Responsibility:** SM, DWR, SCWA, and BP&I

**Timeframe:** Near-Term

#### MEASURE WATER-02: INCREASE ON-SITE GREYWATER AND RAINWATER REUSE, STORMWATER REUSE, AND RECYCLED WATER SYSTEMS

##### Implementation:

- ▶ Partner with the Regional Water Authority (RWA) and other water districts to establish incentive programs that promote the deployment of on-site rainwater catchment systems, such as rain barrels, rain gardens, cisterns, and other mechanisms to capture and store rainwater for use during the dry season for water customers.
- ▶ Continue and expand on the Sacramento County's Environmental Management Department's educational outreach regarding the safe and proper installation of rainwater catchment and storage systems.



- ▶ Coordinate with the Sacramento Regional County Sanitation District (Regional San) or other appropriate agencies to develop a standard to deploy innovative options to meet future water demand for all County-owned facilities (e.g., reclaim and purify wastewater, on-site graywater reuse systems, or use of recycled water from the regional or local treatment plants).
- ▶ Develop an integrated network of rainwater and greywater catchment systems within the County's agricultural sector through incentive and rebate programs to further increase water storage capacity.
- ▶ Establish a regional stormwater harvest program and construct the related infrastructure (e.g., piping, storage basins and reservoirs, pumps) in existing rural and urban portions of the County as well as new development.

**Benefits:** Deployment of on-site and regional rainwater capture and stormwater harvest technology would expand Sacramento County's existing water storage capacity and thereby improve the County's resiliency to periods of drought or cases where water distribution infrastructure is damaged. This measure will have co-benefits related to flood risk.

**Responsibility:** SM, EMD, SCWA, PIO, DGS, Regional San, DWR, and Agricultural Commissioner's Office

**Timeframe:** Near-Term

### **MEASURE WATER-03: CREATE INCENTIVES AND PROGRAMS TO TRANSFER KNOWLEDGE AND TECHNOLOGIES TO ASSIST FARMERS WITH NEW PRODUCTION METHODS AND DROUGHT TOLERANCE SPECIES**

**Implementation:**

- ▶ Create programs that facilitate communication between farmers of specialty crops and other climate-sensitive crops and agricultural specialists to advise future agricultural practices in light of a potentially drier and hotter climate.
- ▶ Provide financial support to farmers of specialty crops and other climate-sensitive crops for changes to irrigation systems associated with drought-tolerant crops, which may be cultivated more under future climate conditions.
- ▶ Incentivize water conservation and efficiency in the agricultural sector through incentive and rebate programs for practices that could include, but are not limited to, drip irrigation, tailwater return systems, covered canals, reduced tillage, and covered crops.

**Benefits:** Increased communication and financial support within the agricultural sector of the County would allow farmers to transition and adapt to a hotter and potentially drier climate. As a major source of revenue for the County as well as contributor to the food security of the County and state, it will be imperative that the agricultural sector adapt quickly to a changing climate. Implementation of the aforementioned Actions would improve the sector's resiliency.

**Responsibility:** SM, Agricultural Commissioner's Office, ED, DWR, and SCWA

**Timeframe:** Near-Term

## MEASURE WATER-04: REDUCE POTABLE WATER USE IN OUTDOOR LANDSCAPING

### Implementation:

- ▶ Amend the Sacramento County Water Efficient Landscaping Ordinance to require that 80 percent of landscaping area is dedicated to low-water, drought-tolerant species for new residential and non-residential buildings.
- ▶ Partner with RWA and other water districts in the County to improve existing rebate programs (e.g., SCWA's Cash for Grass Program) to incent the incorporation of low-water, drought-tolerant species in lieu of water-intensive lawns and high-water vegetation in existing residential areas.
- ▶ Partner with Regional San to expand the existing recycled water system service areas by 50 percent.

**Benefits:** Revising the County's landscaping standards as defined by the Sacramento County Water Efficient Landscaping Ordinance and County Zoning Code, improving rebates to residential water users to incorporate drought-tolerant landscaping, and increasing the size of the recycled water system would reduce the amount of water used for landscaping. These savings could be allocated to other more vital purposes (e.g., agriculture, potable water). These actions would also result in reductions in pumping energy and associated GHG emissions reductions.

**Responsibility:** PER, SM, SCWA, Regional San

**Timeframe:** Near-Term

## MEASURE WATER-05: EXPAND UPON EXISTING WATER CONSERVATION EDUCATION OUTREACH PROGRAMS FOR RESIDENTS AND BUSINESSES

**Implementation:** Expand communication of water conservation-related education and tips through multiple media platforms (e.g., radio, television, social media) to increase awareness of indoor and outdoor conservation methods. Showcase a drought-tolerant demonstration garden at a County building.

**Benefits:** Many Sacramento County-based water districts provide educational material to water users; however, to reduce wasteful use of water, water districts should dedicate additional efforts to expand the reach of these educational resources. This would result in more informed water users, who may implement on-site water conservation strategies.

**Responsibility:** SM, SCWA, and PIO

**Timeframe:** Near-Term

## MEASURE WATER-06: COLLABORATE WITH FEDERAL, STATE, AND LOCAL AGENCIES AND ORGANIZATIONS TO IDENTIFY FUTURE WATER SUPPLIES, EXPLORE ALTERNATIVE SUPPLY SOURCES, AND IMPROVE CAPACITY

### Implementation:

- ▶ Pursue grant funding opportunities from SWRCB, the California Department of Water Resources (CA DWR), U.S. Bureau of Reclamation (USBR), USACE and other state and federal agencies related to water recycling projects, and/or other water resource planning projects.

- ▶ Engage with RWA, other water districts in the County, SWRCB, CA DWR, USBR, USACE, and other local, state and federal agencies to identify water supply options for the future and collaborate on water conservation strategies to improve supply capacity throughout the Sacramento and American River Watersheds.
- ▶ Collaborate with Sierra Climate Adaptation and Mitigation Partnership (Sierra CAMP), Sierra Nature Conservancy, Water Forum, and CRCRC, and other local, regional, and state organizations to explore regional sustainability and conservation strategies for Sacramento County's water resources (i.e., Sacramento, American, Mokelumne, and Cosumnes Rivers; groundwater).
- ▶ Invest in programs within Sacramento County and/or locations within or in proximity to the Sacramento Valley Groundwater Basin to artificially recharge groundwater supplies through recharge ponds and injection wells to improve Sacramento County's water storage capacity.

**Benefits:** On-going communication and collaboration with other water-related stakeholders (e.g., agencies, organizations, businesses) would facilitate planning efforts to ensure that potentially limited water resources are allocated fairly and appropriately both upstream and downstream of Sacramento County. It is imperative that Sacramento County and its surrounding communities adapt to shifts in precipitation patterns associated with climate change. This measure will have co-benefits related to flood risk.

**Responsibility:** SM, and SCWA

**Timeframe:** Mid-Term

### 3.1.4 Prepare for Increased Flooding

#### MEASURE FLOOD-01: EVALUATE AND IMPROVE CAPACITY OF STORMWATER INFRASTRUCTURE FOR HIGH-INTENSITY RAINFALL EVENTS

**Implementation:**

- ▶ Invest in upgrades to existing stormwater infrastructure to accommodate high-volumes of runoff during extreme storm events to reduce risk of localized flooding.
- ▶ Invest in green infrastructure such as rain gardens, bioswales, stormwater tree trenches, green roofs, detention basins, and rain barrels to reduce peak runoff, filter stormwater, and increase groundwater recharge.
- ▶ Increase maintenance and cleaning of gutters, drainage ditches, and culverts to maximize drainage capacity.

**Benefits:** Improving existing stormwater infrastructure combined with investing in green infrastructure would reduce instances of localized flooding in the County.

**Responsibility:** DWR

**Timeframe:** Near-Term

## MEASURE FLOOD-02: IMPROVE SEWAGE AND SOLID-WASTE MANAGEMENT INFRASTRUCTURE

**Implementation:** Improve sewage and solid-waste management infrastructure to reduce vulnerabilities to flooding and inundation, especially within older portions of the County where infrastructure is undersized or inadequate.

**Benefits:** Evaluation and improvement of existing undersized or inadequate sewage and solid-waste management infrastructure would lessen the occurrences of floodwater contamination, thereby reducing the spread of pollution and degraded water quality.

**Responsibility:** Regional San, SASD, and DWR

**Timeframe:** Near-Term

## MEASURE FLOOD-03: IDENTIFY NEW LOCATIONS FOR FLOOD CONTROL, PRIORITIZING GREEN INFRASTRUCTURE SOLUTIONS

**Implementation:** Identify new locations suitable for multi-benefit flood control (e.g., underused agricultural areas, small streams) that encourage groundwater recharge, aquaculture, and habitat restoration (e.g., wetlands).

**Benefits:** Historically, Sacramento County has relied on the Yolo Bypass for flood control; however, if high climate-change caused volumes of water exceed the capacity of the River and Yolo Bypass, Sacramento County would be dependent on additional flood control areas. Identification of these locations that would mitigate potential flood events and also provide other benefits including, but not limited to, groundwater recharge, aquaculture, and habitat restoration.

**Responsibility:** SM, DWR, and SCWA

**Timeframe:** Near-Term

## MEASURE FLOOD-04: COORDINATE WITH FEDERAL, STATE, AND LOCAL AGENCIES TO IMPROVE EMERGENCY EVACUATION AND SUPPLY TRANSPORTATION ROUTES

**Implementation:**

- ▶ Coordinate with the City of Sacramento, CalEOS, SAFCA, CA DWR, and the Federal Emergency Management Agency (FEMA) in improving emergency evacuation and supply transportation routes during flood events.
- ▶ Identify locations of limited evacuation and supply transport capacity (e.g., bridges) and explore innovative alternative routes (e.g., American River bike trails, light-rail).

**Benefits:** Evacuation out of Sacramento County could be restricted by limited bridge crossings. Development of a comprehensive plan and multiple routes for evaluation and supply transport will be necessary to protect Sacramento County residents during flood events.

**Responsibility:** SacOES, DWR, and SACDOT

**Timeframe:** Near-Term

## MEASURE FLOOD-05: INVEST IN USE OF PERVIOUS PAVEMENTS AND LANDSCAPING IN DEVELOPED AREAS AND RESTRICT THE USE OF PAVED SURFACES

### Implementation:

- ▶ Increase the use of pervious pavements and landscaped areas to allow for better infiltration and reduced stormwater overflow in developed areas.
- ▶ Minimize paved surfaces for parking in favor pervious surfaces to mitigate high stormwater flow rates. The County will consider reducing minimum parking requirements in appropriate land use designations and/or increasing minimum tree or landscaping planter sizes.

**Benefits:** Use of pervious pavements and landscaping combined with restricting the overall square footage of paved surfaces within development areas would minimize surface runoff and rates of urban flooding. As such, the capacity of stormwater infrastructure would be maintained, and cases of localized flooding would be less frequent.

**Responsibility:** SM, PER, DWR, and SacDOT

**Timeframe:** Near-Term

## MEASURE FLOOD-06: MAP CRITICAL FACILITIES AND INFRASTRUCTURE LOCATIONS VULNERABLE TO FLOODING AND UPGRADE AND/OR RELOCATE INFRASTRUCTURE WHERE APPLICABLE

### Implementation:

- ▶ Map locations of communication, energy, public service, and transportation facilities and infrastructure that are vulnerable to flooding.
- ▶ In cases where existing communication, energy, public service, and transportation infrastructure and facilities are found to be vulnerable to flooding, assess and upgrade associated infrastructure to be more resilient to inundation and/or relocate critical infrastructure and related-elements to higher ground (e.g., generators relocated to upper floors of hospitals).

**Benefits:** Public facilities and infrastructure, particularly energy infrastructure, located within the 100-year, 200-year, and 500-year floodplain may be subject to several feet of inundation. Contact with floodwaters could damage the efficacy of such infrastructure resulting in black-outs, loss of communication, and impeded public services. To combat these potential impacts, Sacramento County will need to identify the locations of existing vulnerable facilities and infrastructure, and upgrade or relocate such infrastructure to withstand potential flood events. This measure will also have co-benefits related to sea-level rise.

**Responsibility:** SacOES, SacDOT, and GIS

**Timeframe:** Near-Term

## **MEASURE FLOOD-07: ESTABLISH AN UNDERGROUND UTILITIES PROGRAM RESISTANT TO FLOODING**

**Implementation:** Partner with SMUD and PG&E to establish a flood-resistant Underground Utilities Program that would underground overhead utility lines in appropriate areas to increase the resiliency of the energy grid, particularly in existing communities.

**Benefits:** The undergrounding of electrical utilities would increase Sacramento County's resilience to temperature- and wildfire-related impacts (see Temp-6 and Fire-7); however, in flood-prone areas, such as Sacramento County, underground utilities may be damaged during periods of inundation or rising groundwater. The County should partner with SMUD and PG&E to develop watertight, flood-resilient underground utility designs to minimize flood impacts to this infrastructure.

**Responsibility:** SM

**Timeframe:** Near-Term

## **MEASURE FLOOD-08: PARTNER WITH SAFCA AND LOCAL AGENCIES, UTILITIES, AND OTHER ORGANIZATIONS TO SUPPORT FUTURE AND ON-GOING FLOOD-RELATED CLIMATE CHANGE INITIATIVES**

**Implementation:**

- ▶ Partner with SAFCA, SMUD, PG&E, CRCRC, Sierra CAMP, and others to support future and on-going flood-related climate change initiatives such as efforts such as SMUD's Sacramento Resilient Grid Initiative, Flood Data Analysis and Preparedness Planning, and other initiatives designed to increase Sacramento County's resilience to flooding.
- ▶ Partner with SAFCA, SMUD, PG&E, CRCRC, Sierra CAMP and others in advancing upstream and downstream regional water management solutions that reduce flood risks by: increasing storage capacity in upstream reservoirs (similar to improvements recently made to Folsom Dam), storing, and slowing snow melt until later in the season, and increasing capacity of the Yolo bypass areas.
- ▶ Advance projects to stabilize and reinforce shorelines and levees along the American River to accommodate 160,000 cubic feet per second flows during high release flood protection events.

**Benefits:** Coordination with agencies and organizations would enable Sacramento County to use and benefit from additional resources and experts. Comprehensive upstream and downstream management of the Sacramento and American River Watersheds is integral to preventing catastrophic flooding in the region. This measure will have co-benefits related to sea-level rise.

**Responsibility:** SM and DWR

**Timeframe:** Near-Term

## **MEASURE FLOOD-09: RESEARCH THE TOLERANCE OF CURRENT CROP MIXES TO WITHSTAND INCREASED FLOODING AND SUPPORT AQUACULTURE AND FISH HABITAT**

**Implementation:**

- ▶ Work with the agricultural sector to understand the tolerance of current crop mixes to withstand increased flooding and explore options to shift crop types to suit changing conditions.
- ▶ Support the efforts of the California Trout's Nigiri Project and other similar projects to incentivize farmers to manage fields for fish habitat and aquatic food production (e.g., rice).
- ▶ Coordinate with the U.S. Department of Agriculture (USDA), CDFA, CA DWR, Sacramento County Department of Water Resources (DWR), California Trout, California Department of Fish and Wildlife (CDFW), and others to identify and implement actions local farmers can take to anticipate increased flooding.

**Benefits:** Historically, during period when the Sacramento River's reaches a threshold elevation, water is diverted into the Yolo Bypass Area, which has five times the capacity of the Sacramento River. Investing in options to use this water for aquaculture and fish and wildlife restoration habitat would benefit the County's economy and native ecosystems. This measure will have co-benefits related to preparations for sea-level rise.

**Responsibility:** SM, Office of the Agricultural Commissioner, DWR, and ED

**Timeframe:** Near-Term

## MEASURE FLOOD-10: EXPAND EDUCATIONAL PROGRAMS TO ADDRESS VECTOR AND WATERBORNE DISEASES

### Implementation:

- ▶ Coordinate with the Sacramento-Yolo Mosquito and Vector Control District in the design and installation of underground cisterns and other drainage facilities to reduce and treat vectors.
- ▶ Expand public outreach and education through multiple forms of media (e.g., radio, television, social media) to reduce standing water in areas that attract mosquitos. Include information regarding methods of protection (e.g., covering up, use of sprays).

**Benefits:** Stagnant water following flood events provides excellent breeding grounds for mosquitoes and other insects that may carry vector-borne diseases (e.g., West Nile virus, Zika virus). Expending greater resources to expand upon existing educational programs would reduce the deleterious effects these diseases may have on Sacramento County residents.

**Responsibility:** DHHS, EMD, and DWR

**Timeframe:** Near-Term

## MEASURE FLOOD-11: IDENTIFY CONCRETE CHANNEL RESTORATION AREAS

**Implementation:** Identify and construct concrete channels along the Sacramento and American Rivers that could be naturalized by stabilizing stream banks and planting appropriate vegetation to buffer buildings, roads, and crops from flooding similar to the Cordova Creek Naturalization Project.

**Benefits:** Naturalizing these existing concrete channels would create natural buffers to flood protection. The planting of native trees, shrubs, and other vegetation increases water absorption and allows for groundwater recharge, which moderates the volume of water entering rivers and streams, thereby minimizing flood events.

**Responsibility:** DWR, Regional Parks

**Timeframe:** Near-Term

## **MEASURE FLOOD-12: REPLANT BARE OR DISTURBED AREAS**

**Implementation:** Replant bare or disturbed areas to reduce runoff, improve water uptake, and reduce erosion and sedimentation in streams.

**Benefits:** Vegetation acts as a natural buffer to protect water quality during flood events by filtering contaminants and reducing flows of sedimentation through soil stabilization. Replanting bare or disturbed areas would reduce flood-related water quality impacts in Sacramento County.

**Responsibility:** DWR and Regional Parks

**Timeframe:** Near-Term

## **MEASURE FLOOD-13: UPDATE AND IMPLEMENT THE COUNTY'S LOCAL HAZARD MITIGATION PLAN TO ADDRESS CLIMATE CHANGE-RELATED FLOODING IMPACTS**

**Implementation:**

- ▶ Ensure that all future updates to the County's LHMP incorporate comprehensive strategies to address the increasing likelihood of flooding as a result of the hazards of climate change.
- ▶ Fund implementation of the 2016 County LHMP Multi-Hazard Mitigation Actions related to flood protection and continue to fund Multi-Hazard Mitigation Actions contained in all future updates.

**Benefits:** In accordance with federal law, the Sacramento County LHMP will be updated periodically to adapt to potential changes in hazard conditions, including climate change influences. As the effects of global climate change continue to manifest, Sacramento County's adaptation strategies and mitigation actions may need to evolve to accommodate changing conditions. Regular updates to the LHMP would include adjustments to Sacramento County's adaptation strategies and mitigation actions, so they are deployed accurately and in a timely manner. This measure will have co-benefits related to sea-level rise.

**Responsibility:** DWR and SacOES

**Timeframe:** Near-Term

## **MEASURE FLOOD-14: SAFEGUARD FRESHWATER SUPPLY AGAINST CONTAMINATION, DEGRADATION, OR LOSS**

**Implementation:** Invest in new and/or upgraded existing infrastructure to ensure that freshwater supplies are not contaminated, degraded, or lost during flood events.

**Benefits:** Floodwaters may interact with sources of pollution and disperse hazardous substances locally or regionally potentially impairing freshwater supplies. Safeguarding freshwater supply sources through infrastructure improvements (e.g., backflow preventers) would improve Sacramento County's ability to provide drinking water to its residents during flood events.

**Responsibility:** SCWA



**Timeframe:** Near-Term

## MEASURE FLOOD-15: IMPROVE FLOOD WARNING AND INFORMATION DISSEMINATION

### Implementation:

- ▶ Partner with NWS to deliver robust multi-lingual education and outreach materials accessible across multiple media forms (e.g., radio, text messaging) to publicize the potential flood risk day-to-day, how to sign up for Sacramento Alert Emergency Notification System, emergency supplies, pet protection, key terminology, electrical safety, and evacuation routes in the case of flooding.
- ▶ Invest resources and personnel to regularly update the Sacramento Ready webpage to include current information.

**Benefits:** Improving Sacramento County's outreach and educational programs to be more accessible to non-English speaking persons, residents living within floodplains, and disadvantaged communities would provide Sacramento County residents with real-time information of flood danger as well as useful resources regarding steps to protect against human and property damage. This measure will have co-benefits related to sea-level rise.

**Responsibility:** SacOES, DWR, and PIO

**Timeframe:** Near-Term

### 3.1.5 Prepare for Sea-Level Rise

## MEASURE SLR-01: COORDINATE WITH OTHER AGENCIES ON FLOODPLAIN MAPPING UPDATES AND IDENTIFICATION OF IMPROVEMENTS TO PROTECT VULNERABLE POPULATIONS, FUNCTIONS, AND STRUCTURES

### Implementation:

- ▶ Coordinate with the applicable Reclamation Districts (RDs), FEMA, and CA DWR to regularly update floodplain mapping for potentially affected areas to reflect changes in Base Flood Elevations that account for sea-level rise.
- ▶ Partner with the applicable RDs to establish measures to protect populations, functions, and structures within the affected areas including continued maintenance of RD levee systems and relocation of vulnerable communities, infrastructure, and facilities where applicable.

**Benefits:** Updates to floodplain mapping that include changes in Base Flood Elevations with sea-level rise inputs would inform future planning and investment decisions. Recognizing that the impact of sea-level rise will manifest gradually over the course of the century, and that according to current projections, 8 percent of Sacramento County is at risk of inundation from a 1.41-meter rise in sea level coupled with a 100-year flood event, Sacramento County should rely on partnerships with agencies and organizations conducting sea-level rise research to identify actions that protect the County and areas within the proximity of the County. (see Measure SLR-6 below).

**Responsibility:** DWR

**Timeframe:** Near-Term/Ongoing

## **MEASURE SLR-02: SUPPORT AND MONITOR ONGOING ANALYSIS OF SEA-LEVEL RISE DATA**

**Implementation:**

- ▶ Support and monitor ongoing collection and analysis of sea-level rise, storm surge, and tidal data by existing institutions, including, but not limited to: FEMA and the National Oceanic and Atmospheric Administration (NOAA).
- ▶ Support research and analysis of saltwater intrusion and degraded water quality in the Sacramento River, as well as surrounding freshwater inlets and wells, as a result of sea-level rise.

**Benefits:** Gathering information on sea-level rise effects on Sacramento County (e.g., saltwater intrusion) would help the County and local water districts prepare for potentially more adverse hydrologic and water quality conditions.

**Responsibility:** DWR and SCWA

**Timeframe:** Ongoing

## **MEASURE SLR-03: UPDATE THE COUNTY'S LOCAL HAZARD MITIGATION PLAN TO INCORPORATE SEA-LEVEL RISE**

**Implementation:** Require that future updates to the County's LHMP incorporate a comprehensive evaluation of sea-level rise in the County and associated risk management processes as the degree of sea-level rise manifests and as more data becomes available.

**Benefits:** Future updates to the County's LHMP to include sea-level rise hazards would increase Sacramento County's resilience to higher sea levels, because future LHMPs would assess the geographic extent, probability of future occurrences, magnitude/severity, significance, and climate change influence of sea-level rise as it relates to the County. The LHMP's assessment of these factors would advise the development of future Mitigation Actions.

**Responsibility:** SacOES and DWR

**Timeframe:** Mid-Term/Ongoing

## **MEASURE SLR-04: INCORPORATE SEA-LEVEL RISE EFFECTS INTO CAPITAL IMPROVEMENT PLANS**

**Implementation:** Following the completion of Measures SLR-1 and SLR—3, update capital improvement plans for critical infrastructure to address the effects of future sea-level rise and associated hazards in potentially affected areas.

**Benefits:** Using sea-level rise data, the County would be able to design and locate future infrastructure projects accordingly. In areas where sea-level rise effects will likely occur, the County would bolster or relocate future infrastructure.

**Responsibility:** DWR, SACDOT, Regional San, and SCWA

**Timeframe:** Mid-Term

## **MEASURE SLR-05: GUIDE FUTURE DEVELOPMENT OUT OF AREAS VULNERABLE TO SEA-LEVEL RISE**

**Implementation:** Following the completion of Measures SLR-1 and SLR-3, guide future development out of areas that are vulnerable to sea-level rise and associated hazards.

**Benefits:** Guiding development out of areas vulnerable to sea-level rise would reduce future flooding impacts to people and property. This measure will have co-benefits related to flood risk.

**Responsibility:** PER and DWR

**Timeframe:** Near-Term/Ongoing

## **MEASURE SLR-06: CREATE A COMPREHENSIVE OUTREACH STRATEGY**

**Implementation:** Develop robust multi-lingual education and outreach materials accessible across multiple media forms (e.g., radio, television, social media) to publicize potential sea-level rise impacts and how to sign up for Sacramento Alert Emergency Notification System and adequately protect and increase community resiliency to sea-level rise.

**Benefits:** Improving Sacramento County's outreach and educational programs to be more accessible to non-English speaking persons, residents living within areas vulnerable to sea-level rise, and disadvantaged communities would provide Sacramento County residents with real-time information of flood danger as well as useful resources regarding steps to protect against human and property damage. This measure will have co-benefits related to flood risk.

**Responsibility:** SacOES, DWR, and PIO

**Timeframe:** Mid-Term

## 4 IMPLEMENTATION AND MONITORING STRATEGY

To successfully implement the GHG emissions reduction and adaptation strategies described in previous sections, the CAP in its entirety will need to be continuously assessed and monitored. This will entail.

- ▶ Preparing an annual report for the Board of Supervisors that describes progress on the GHG reduction and adaptation strategies described in this plan. This report will state the status of each measure in achieving the implementation and target indicators set for the timeline specified.
- ▶ Coordinating measure implementation within each County department specified in the measure, or other departments, if necessary.
- ▶ Providing regular updates to the public on the status of CAP strategy implementation, through a CAP portal hosted the County's website and linked to the existing Public Information Office subpage.
- ▶ Regular coordination with the Climate Emergency Mobilization Task Force as described in the County's Declaration of a Climate Emergency.
- ▶ Seeking Board approval, when necessary, to implement programs that support the goals of the CAP measures and to adjust the CAP when necessary in response to monitored performance and community feedback.
- ▶ Updating the community GHG Inventory within the first two years of CAP implementation, and every three years thereafter, publishing a summary of the results to the CAP portal.
- ▶ Screening project applications for new development to ensure that all projects, particularly those seeking streamlining for GHG analyses are in conformance with the CAP.
- ▶ Coordination with non-profits and community-based organizations engaged in sustainability planning on the implementation of CAP measures.
- ▶ Tracking the payment of relevant assessments on new development to ensure that these funds are being invested into high-density infill projects with per-capita GHG emissions below the County's 2030 business-as-usual forecast of 4.8 MT CO<sub>2</sub>e per person.
- ▶ Attending regular meetings with regional planning agencies and organizations to provide updates on the status of the CAP and learn new best practices for CAP measure implementation. This includes but is not limited to Capital Region Climate Readiness Collaborative, SMUD public workshops, SACOG regional planning efforts, and applicable SMAQMD rulemakings.
- ▶ Tracking the timeframe on updates to the County's General Plan, State Scoping Plan, Natural and Working Lands Strategy, and attending scoping meetings for these Plans to ensure that future updates to the CAP align with these Plans.
- ▶ Begin identifying new and enhanced carbon reduction strategies to incorporate into a CAP update in the 2024-2025 timeframe that brings the County to full carbon neutrality by 2030 in accordance with the County's Climate Emergency Resolution.

The work described would entail internal coordination across multiple County agencies, with external partners, and interaction with the Board of Supervisors for consideration of actions that allow the CAP measures to be achieved, modified, and funded, as necessary. A full-time Sustainability Manager reporting to the County Executive and aided by part-time support staff would be necessary for performing the duties described in this

strategy. This position does not currently exist in the County Administration, but would be created as part of this CAP.

## 5 REFERENCES

- Bedsworth et al. 2018. *Statewide Summary Report. California's Fourth Climate Change Assessment*. Publication number: SUMCCCA4-2018-013.
- Burton, Christopher and Susan L. Cutter. 2008 (August). Levee Failures and Social Vulnerability in the Sacramento-San Joaquin Delta Area, California. *Natural Hazards Review*. Pp 136-149. Available: [https://www.researchgate.net/profile/Christopher\\_Burton3/publication/228756947\\_Levee\\_failures\\_and\\_social\\_vulnerability\\_in\\_the\\_Sacramento-San\\_Joaquin\\_Delta\\_area\\_California/links/00b4953c3a884f3878000000.pdf](https://www.researchgate.net/profile/Christopher_Burton3/publication/228756947_Levee_failures_and_social_vulnerability_in_the_Sacramento-San_Joaquin_Delta_area_California/links/00b4953c3a884f3878000000.pdf). Accessed: August 4, 2016.
- CA DWR. See California Department of Water Resources.
- CAL FIRE. See California Department of Forestry and Fire Protection.
- CalBRACE. 2015 (December). *Public Health Planning for Climate Change Adaption in California*. Available: [http://www.cdph.ca.gov/programs/Documents/VARreportSection2\\_Sacramento\\_12-21-2015.pdf](http://www.cdph.ca.gov/programs/Documents/VARreportSection2_Sacramento_12-21-2015.pdf). Accessed: September 21, 2016.
- CalCAN. See California Climate and Agriculture Network.
- California Climate and Agriculture Network. 2011 (March). *Ready...Or Not? An Assessment of California Agriculture's Readiness for Climate Change*. Available: <http://calclimateag.org/wp-content/uploads/2011/03/ready-or-not-full-report.pdf>. Accessed: January 12, 2017.
- California Climate Action Team. 2012 (August). *Extreme Heat Adaption Interim Guidance Document*. Available: <https://www.arb.ca.gov/cc/ab32publichealth/meetings/091012/extremeheatadaptationinterimguidance.pdf>. Accessed: January 13, 2017.
- California Department of Fish and Wildlife. 2015. *California State Wildlife Action Plan 2015 Update: A Conservation Legacy for Californians*. Available: <https://www.wildlife.ca.gov/SWAP/Final>. Accessed: September 20, 2016.
- California Department of Food and Agriculture. 2013. *Climate Change Consortium for Specialty Crops: Impacts and Strategies for Resilience*. Available: <https://www.cdfa.ca.gov/environmentalstewardship/pdfs/cc-report.pdf>. Accessed: January 12, 2017.
- California Department of Forestry and Fire Protection. 2008 (November). *Power Line Fire Prevention Field Guide*. Available: <http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fppguidepdf126.pdf>. Accessed: March 22, 2017.
- California Department of Water Resources. 1980. *Ground Water Basins in California: A Report to the Legislature in Response to Water Code Section 12924*. Available: [http://www.water.ca.gov/pubs/groundwater/bulletin\\_118/ground\\_water\\_basins\\_in\\_california\\_bulletin\\_118-80/\\_b118\\_80\\_ground\\_water\\_ocr.pdf](http://www.water.ca.gov/pubs/groundwater/bulletin_118/ground_water_basins_in_california_bulletin_118-80/_b118_80_ground_water_ocr.pdf). Accessed: November 9, 2016.

- . 2008. *Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water*. Available: <http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf>. Accessed: June 15, 2016.
- California Energy Commission. 2020a. *Cal-Adapt Annual Averages Tool*. Available: <https://cal-adapt.org/tools/annual-averages/>. Accessed November 25, 2020.
- . 2020b. *Cal-Adapt Extreme Heat Tool*. Available: <https://cal-adapt.org/tools/extreme-heat/>. Accessed November 25, 2020.
- . 2020c. *Cal-Adapt Extreme Precipitation Tool*. Available: <https://cal-adapt.org/tools/extreme-precipitation/>. Accessed November 25, 2020.
- California Natural Resources Agency. 2012. *Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risk from Climate Change in California*.
- . 2014. *Safeguarding California: Reducing Climate Risk—An Update to the 2009 California Climate Adaptation Strategy*.
- . 2018. *Safeguarding California Plan: 2018 Update*. Available: <https://files.resources.ca.gov/climate/safeguarding/>. Accessed November 30, 2020.
- CalOES. See Governor's Office of Emergency Services.
- Capital Region Climate Readiness Collaborative. 2014 (November). *Climate Change Risks and Solutions for the Capital Region*. Available: <http://www.climate readiness.info/wp-content/uploads/2014/04/Sacramento-Climate-Change-Risks-Nov-2014.pdf>. Accessed: August 2, 2016.
- CAT. See California Climate Action Team.
- CDFA. See California Department of Food and Agriculture.
- CDFW. See California Department of Fish and Wildlife.
- CEC. See California Energy Commission.
- Climate Central. No Date. *Sacramento and Stockton Face Biggest Sea Level Rise Threat in California: Host State's Largest City Population on Low-Lying Lands*. Available: <http://www.climatecentral.org/pdfs/SLR-CA-SS-PressRelease.pdf>. Accessed: August 25, 2016.
- CNRA. See California Natural Resources Agency.
- CRCRC. See Capital Region Climate Readiness Collaborative.
- Curtis, Katherine J. and Annemarie Schneider. 2011 (April). *Understanding the Demographic Implications of Climate Change: Estimate of Localized Population Prediction under Future Scenarios of Sea-Level Rise*. Springer Science and Business Media, LLC. Available: [https://www.researchgate.net/profile/Annemarie\\_Schneider/publication/227203534\\_Understanding\\_the\\_demographic\\_implications\\_of\\_climate\\_change\\_Estimates\\_of\\_localized\\_population\\_predictions\\_under\\_future\\_scenarios\\_of\\_sea-level\\_rise/links/004635351a192319d4000000.pdf](https://www.researchgate.net/profile/Annemarie_Schneider/publication/227203534_Understanding_the_demographic_implications_of_climate_change_Estimates_of_localized_population_predictions_under_future_scenarios_of_sea-level_rise/links/004635351a192319d4000000.pdf). Accessed: August 4, 2016.
- Governor's Office of Emergency Services. 2020. *California Adaptation Planning Guide*. Available: <https://www.caloes.ca.gov/HazardMitigationSite/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf>. Accessed August 20, 2020.
- Heat Island Group. 2017. *Cool Pavements*. Available: <https://heat island.lbl.gov/coolscience/cool-pavements>. Accessed: January 13, 2017.

- Houlton, Benjamin and Jay Lund. (University of California, Davis). 2018. *Sacramento Summary Report. California's Fourth Climate Change Assessment*. Publication number: SUM-CCCA4-2018-002.
- Metro Fire. See Sacramento Metropolitan Fire District.
- SACOG. See Sacramento Area Council of Governments.
- Sacramento Area Council of Governments. 2015. *Sacramento Region Transportation Climate Adaptation Plan*. Available: <http://www.sacog.org/sites/main/files/file-attachments/fullplanwithappendices.pdf>. Accessed: June 15, 2016.
- Sacramento Metropolitan Fire District. 2014 (June). *Communitywide Wildfire Protection Plan*. Available: <https://metrofire.ca.gov/phocadownloadpap/CWPP/appacwpp.pdf>. Accessed: January 19, 2017.
- Sacramento Municipal Utilities District. 2012 (November). *Climate Readiness Strategy Overview and Summary Findings*. Available: [http://www.hackingsolar.org/library/images/a/a5/SMUD\\_Climate\\_Readiness\\_Report\\_2012.pdf](http://www.hackingsolar.org/library/images/a/a5/SMUD_Climate_Readiness_Report_2012.pdf). Accessed: June 16, 2016.
- SMUD. See Sacramento Municipal Utilities District.
- State Water Resources Control Board. 2017.
- SWRCB. See State Water Resources Control Board.
- USFS. See U.S. Forest Service.
- U.S. Department of Energy. 2010 (July). *Guidelines for Selecting Cool Roofs V 1.2. Building Technologies Program*. Available: [https://heatiland.lbl.gov/sites/all/files/coolroofguide\\_0.pdf](https://heatiland.lbl.gov/sites/all/files/coolroofguide_0.pdf). Accessed: January 12, 2017.
- U.S. Forest Service. 2011 (February). *Southern Sacramento Mountains Restoration Project*. Available: [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5270095.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5270095.pdf). Accessed: April 4, 2017.
- Valley Vision. 2014 (November). *Business Resiliency Initiative El Dorado County Wildfire: Too Close to Home*. Available: [http://valleyvision.org/sites/files/pdf/edc\\_learning\\_paper\\_nov\\_2014\\_1.pdf](http://valleyvision.org/sites/files/pdf/edc_learning_paper_nov_2014_1.pdf). Accessed: September 20, 2016.
- . No Date. *Capitol Region Business Resiliency Initiative: The Toolkit*. Available: <http://resilientbusiness.org/the-toolkit/>. Accessed: January 13, 2017.
- Water Education Foundation. 2016. *Sacramento-San Joaquin Delta Levees*. Available: <http://www.watereducation.org/aquapedia/sacramento-san-joaquin-delta-levees>. Accessed: August 4, 2016.
- Sacramento County. 2011a. *Sacramento County General Plan of 2005-2030*. Adopted December 15, 1993. Available: [http://www.per.saccounty.net/PlansandProjectsIn-Progress/Documents/General%20Plan%202030/2030%20General%20Plan%20Adopted%2011.9.11\\_sm.pdf](http://www.per.saccounty.net/PlansandProjectsIn-Progress/Documents/General%20Plan%202030/2030%20General%20Plan%20Adopted%2011.9.11_sm.pdf). Accessed: May 31, 2016.
- . 2011b (November). *Sacramento County Climate Action Plan: Strategy and Framework Document*. Adopted November 9, 2011. Available: [http://www.ca-ilg.org/sites/main/files/file-attachments/sac\\_030843.pdf](http://www.ca-ilg.org/sites/main/files/file-attachments/sac_030843.pdf). Accessed: August 24, 2016.
- . 2016. *2016 Sacramento Countywide Local Hazard Mitigation Plan Update*. Available: <https://waterresources.saccounty.net/Local%20Hazard%20Mitigation%20Plan%202017/Executive%20Summary.pdf>. Accessed November 30, 2020.

## APPENDIX A – CLIMATE CHANGE OVERVIEW AND REGULATORY BACKGROUND

### 1.1 GREENHOUSE GAS EMISSIONS REDUCTION IN CLIMATE ACTION PLANNING

Planning for climate change at the local level can involve preparation of plans that address the causes and effects of climate change. A known cause of climate change is the release of GHG emissions into Earth's atmosphere (IPCC 2014). CAPs aim to reduce GHG emissions occurring at the local level which contribute to this global challenge. This is done by assessing historic and forecast GHG emissions occurring from local sources and then prescribing GHG reduction measures to reduce, eliminate, or remove GHG emissions over time. The measures contained in Section 2 of this CAP are aimed specifically at emissions within sectors included in the County's GHG Emissions Inventory (Section 1.2 and Appendix E) focusing on actions that are within the control of local government to enforce or provide support to partners in achieving.

### 1.2 KEY STATE REGULATIONS AND PLANNING EFFORTS FOR GREENHOUSE GAS REDUCTION

The CAP for Sacramento County occurs alongside other State plans, policies and regulations aimed at reducing GHG emissions. In 2005, Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05, which directed California to reduce GHG emissions to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. A year later, in 2006, the Global Warming Solutions Act (Assembly Bill [AB] 32) was passed, establishing regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions. AB 32 put a cap on GHG emissions, setting a target of reducing GHG emissions to 1990 levels by 2020. As part of its implementation of AB 32 and EO S-3-05, the California Air Resources Board (CARB) developed a Scoping Plan in 2008 to describe the State's approach to achieving GHG reduction targets and goals.

On April 20, 2015, Governor Edmund G. Brown Jr. signed EO B-30-15, establishing a new GHG emissions reduction target of 40 percent below 1990 levels by 2030. EO B-30-15 directed CARB to update the AB 32 Scoping Plan to reflect the path to achieving the 2030 target. In September 2016, Governor Brown also signed Senate Bill (SB) 32, which codified into statute the mid-term 2030 target established by EO B-30-15. The 2030 GHG emissions reduction target places California on a trajectory towards meeting the goal of reducing statewide emissions to 80 percent below 1990 levels by 2050. EO B-55-18, signed in September 2018, furthers California's efforts to reduce GHG emissions by setting a goal to achieve carbon neutrality by 2045 and achieve net negative GHG emissions thereafter.



## APPENDIX B – CLIMATE CHANGE ADAPTATION, BACKGROUND & VULNERABILITY ASSESSMENT

### 1.1 KEY STATE REGULATIONS AND PLANNING EFFORTS FOR CLIMATE CHANGE ADAPTATION

Climate change is a global phenomenon that will result in short- and long-term consequences, including detrimental impacts on human health and safety, economic continuity, water security, provisions of basic services, and economic function. Indeed, the impacts of climate change are already being felt and are disproportionately impacting California's most vulnerable communities. According to the California Natural Resources Agency's (CNRA) Safeguarding California Plan: 2018 Update, the accelerating rate of climate change in this century will likely exceed that experienced by California's native peoples over past millennia (CNRA 2018). The magnitude and timing of climate change effects will vary by location; therefore, in order to develop effective strategies to address the impacts of climate change, jurisdictions must understand the projected severity of local climate impacts.

The purpose of climate adaptation planning is to seek strategies to reduce vulnerability to projected climate change impacts, increase adaptive capacity, and build resiliency. Resiliency is defined as the ability of an individual, community, organization, or natural system to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience. A climate resilient county is one that is prepared for the effects of climate change, can continue to provide essential services, protects against disproportionate impacts during hazard events, and implements adaptive management the face of change and disruption.

The two basic components of climate adaptation planning are a vulnerability assessment and adaptation strategies. The vulnerability assessment presented below evaluates how climate change will impact the County. It identifies projected climate change exposures for the County at mid- and late century timescales. This assessment identifies the County's populations and assets that are most vulnerable to climate change effects and the level of severity at which they may be impacted through a method known as "vulnerability scoring". This scoring helps the County understand which effects pose the greatest threats and should be prioritized in adaptation planning efforts. Lastly, this chapter presents adaptation strategies and measures to address the impacts of climate change, equitably protect people and infrastructure, and increase countywide resilience to climate change.

The State also prepared the 2009 California Climate Adaptation Strategy (Adaptation Strategy), which highlights climate risks and outlines possible solutions that can be implemented throughout California. The new Safeguarding California document is the State's roadmap to protect communities, infrastructure, services, and the natural environment from climate change impacts. The state has also published several guiding documents to support adaptation planning, which were used to prepare the vulnerability assessment in Appendix B and the strategies and measures contained in the main CAP document.

- ▶ **California Adaptation Planning Guide:** The California Office of Emergency Services (CalOES) and CNRA prepared the Adaptation Planning Guide (APG) in 2012 to provide vulnerability assessment and adaptation planning guidance for communities. CalOES released APG 2.0 (dated June 2020), an updated guidance document that includes best practices and additional flexibility for jurisdictions. APG 2.0 lays out a framework for communities to identify potential climate change effects; important

physical, social, and natural assets; create adaptation strategies to address climate change impacts; and develop a monitoring and implementation framework for climate change adaptation (CalOES 2020).

- ▶ **California’s Fourth Climate Assessment:** CNRA, the Governor’s Office of Planning and Research, and the California Energy Commission prepared California’s Fourth Climate Assessment (Fourth Assessment) in 2018. The Fourth Assessment was designed to address critical information gaps that decision-makers at the state, regional, and local levels need to close in order to protect and build the resilience of people, infrastructure, natural systems, working lands, and waterways.
- ▶ **Safeguarding California Plan:** Alongside the update to the Fourth Assessment, CNRA released the Safeguarding California Plan: 2018 Update which provides a roadmap for State government action to build climate resiliency. The plan identifies actions the State government will take to protect communities, infrastructure, services, and the natural environment from climate change impacts and includes strategies for use as local examples for climate adaptation.

## 1.2 VULNERABILITY ASSESSMENT

This section presents a vulnerability assessment for the County, focusing on direct and indirect climate change effects. The direct, or primary, effects analyzed for the County include changes in average temperature and annual precipitation amounts. Secondary effects, which can occur because of individual changes or a combination of changes in the primary effects, are also assessed. These include extreme heat, wildfire, drought, flooding, and sea-level rise. The vulnerability assessment follows the process outlined in Phase 2 of the APG and is composed of the following four steps:

- ▶ **Exposure:** The first step in the vulnerability assessment is to identify what climate change effects Sacramento County will experience in the future. To assess potential effects from climate change the APG 2.0 recommended Cal-Adapt tool is used. Results are based on two Representative Concentration Pathways (RCPs), 4.5 which represents a medium emissions scenario and 8.5 which represents a high emissions scenario. Because the efficacy of future global GHG reduction strategies is unknown, a discussion of both emissions scenarios, and their associated impacts, is included in this vulnerability assessment (Bedsworth et al. 2018).
- ▶ **Sensitivity and Potential Impacts:** This step identifies and assesses how population groups, community functions, and physical assets may be affected by localized climate change effects.
- ▶ **Adaptive Capacity:** The County, partner agencies, and organizations within the county have already taken steps to build resiliency and protect sensitive populations and assets from hazards. Thus, the purpose of this step is to characterize the county’s current ability to cope with climate impacts, by reviewing existing plans, policies, and programs.
- ▶ **Vulnerability Scoring:** Lastly, vulnerability scores are determined based on how severe projected climate exposures will be, the degree of sensitivity of population groups and assets to anticipated climate effects, and whether sufficient adaptive capacity exists to manage the potential impact. This is based on a scale of 1 to 5, with higher scores indicating greater vulnerability.

*Table B-1* below includes a summary of the vulnerability scoring. It lists the direct and indirect impacts associated with climate change, the magnitude of risk posed to populations and assets (potential impact), and the County’s existing adaptive capacity. An overall vulnerability score is determined based on the potential impact and adaptive capacity scores.

**Table B-1 Potential Impact, Adaptive Capacity, and Vulnerability Scoring for Sacramento County**

Impact	Potential Impact	Adaptive Capacity	Vulnerability Score
Increased Temperatures	High	Medium	4
Extreme Heat Days and Heat Waves	High	Medium	4
Increased Wildfire Risk	Medium	Medium	3
Increased Drought	Medium	Medium	3
Increased Flooding	High	Low/Medium	4/5
Sea-Level Rise	High	Medium	4

## 1.2.1 Exposure

### PRIMARY EFFECT: INCREASED TEMPERATURES

According to Cal-Adapt, the historic (1961-1990) annual average maximum temperature for the County was 74 degrees Fahrenheit (°F), and the historic annual average minimum temperature was 48.4 °F. As shown in Table B-2 and Figures B-1 and B-2, both are projected to increase by mid-century (2035-2064) and further increase by late century (2070-2099) under the medium and high emissions scenarios.

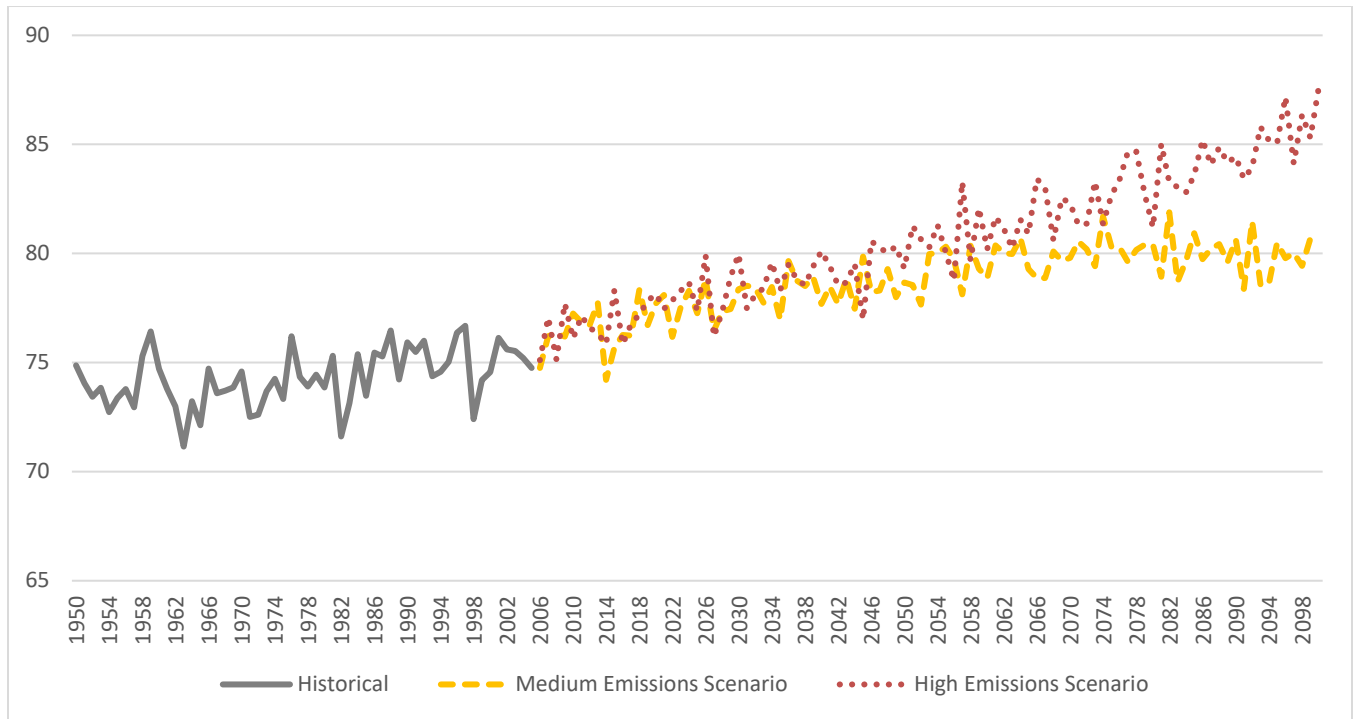
**Table B-2 Changes in Annual Average Temperature in Sacramento County**

Annual Average Temperature (°F)	Historic Annual Average Temperature (1961-1990)	Medium Emissions Scenario (RCP 4.5)		High Emissions Scenario (RCP 8.5)	
		Mid-Century (2035-2064)	Late Century (2070-2099)	Mid-Century (2035-2064)	Late Century (2070-2099)
Maximum Temperature	74.0	78.3	79.8	79.4	82.7
Minimum Temperature	48.4	52.2	53.4	53.2	56.8

Notes: °F = degrees Fahrenheit, RCP = Representative Concentration Pathway

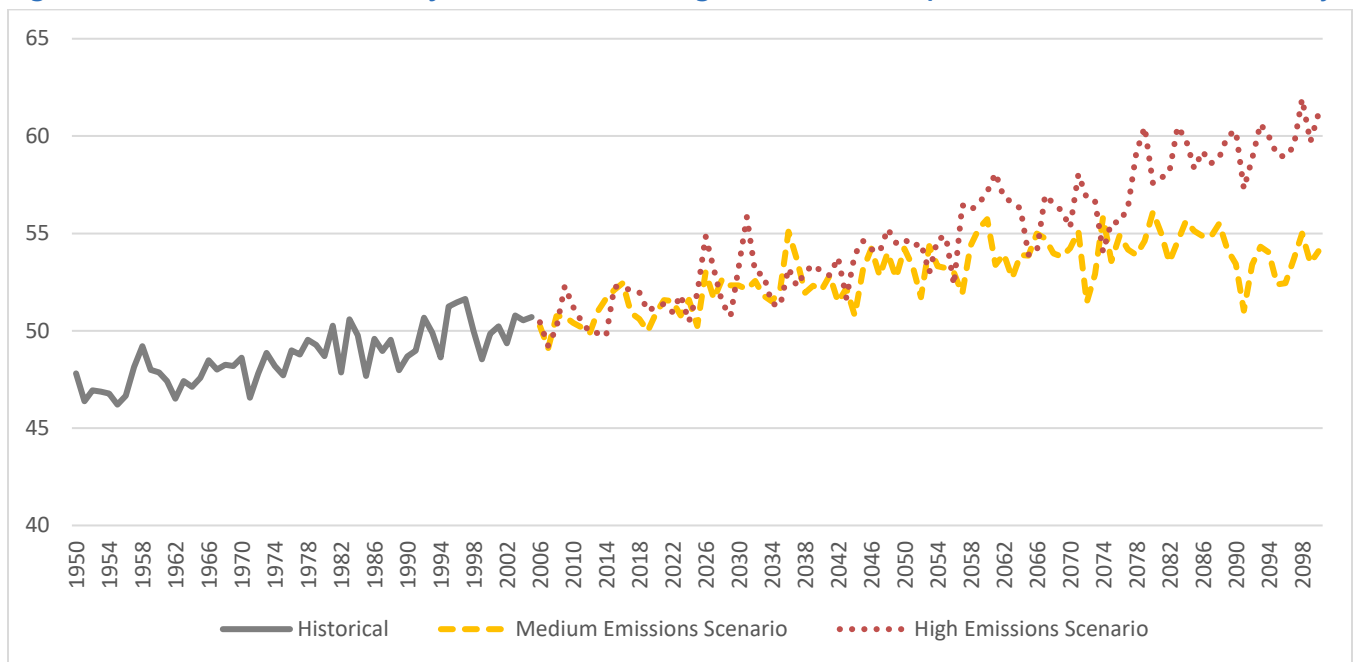
Source: CEC 2020a

**Figure B-1 Historical and Projected Annual Average Maximum Temperature in Sacramento County**



Source: Data downloaded from Cal-Adapt in 2020; adapted by Ascent Environmental in 2020.

**Figure B-2 Historical and Projected Annual Average Minimum Temperature in Sacramento County**



Source: Data downloaded from Cal-Adapt in 2020; adapted by Ascent Environmental in 2020.

Increased temperature in unincorporated county will influence secondary climate effects including extreme heat events, wildfires, drought, and sea-level rise.

## PRIMARY EFFECT: CHANGES IN PRECIPITATION PATTERNS

According to California’s Fourth Climate Change Assessment Sacramento Valley Region report, precipitation patterns in California oscillate between extremely dry and wet periods. Although annual precipitation figures in the Sacramento Valley region are expected to increase only slightly, climate change is likely to increase the intensity of extreme storms. Dry years are likely to become even drier, while wet years will become even wetter in the next several decades. Most critically, future wet seasons will have more precipitation as rain than snow, due to higher temperatures. The Northern Sierras, a primary water source for the Sacramento Valley, are expected to have almost no annual snowpack by the end of this century under the scenarios modeled for the paper. This shift will affect the timing of streamflow into the Sacramento Valley from spring to winter (Houlton and Lund 2018).

According to Cal-Adapt, the historic annual average precipitation in the County has been 18.3 inches. As shown in Table B-3 and Figure B-3, the total annual precipitation in the County is projected to increase slightly by mid-century and late century under the medium and high emissions scenarios (CEC 2020a).

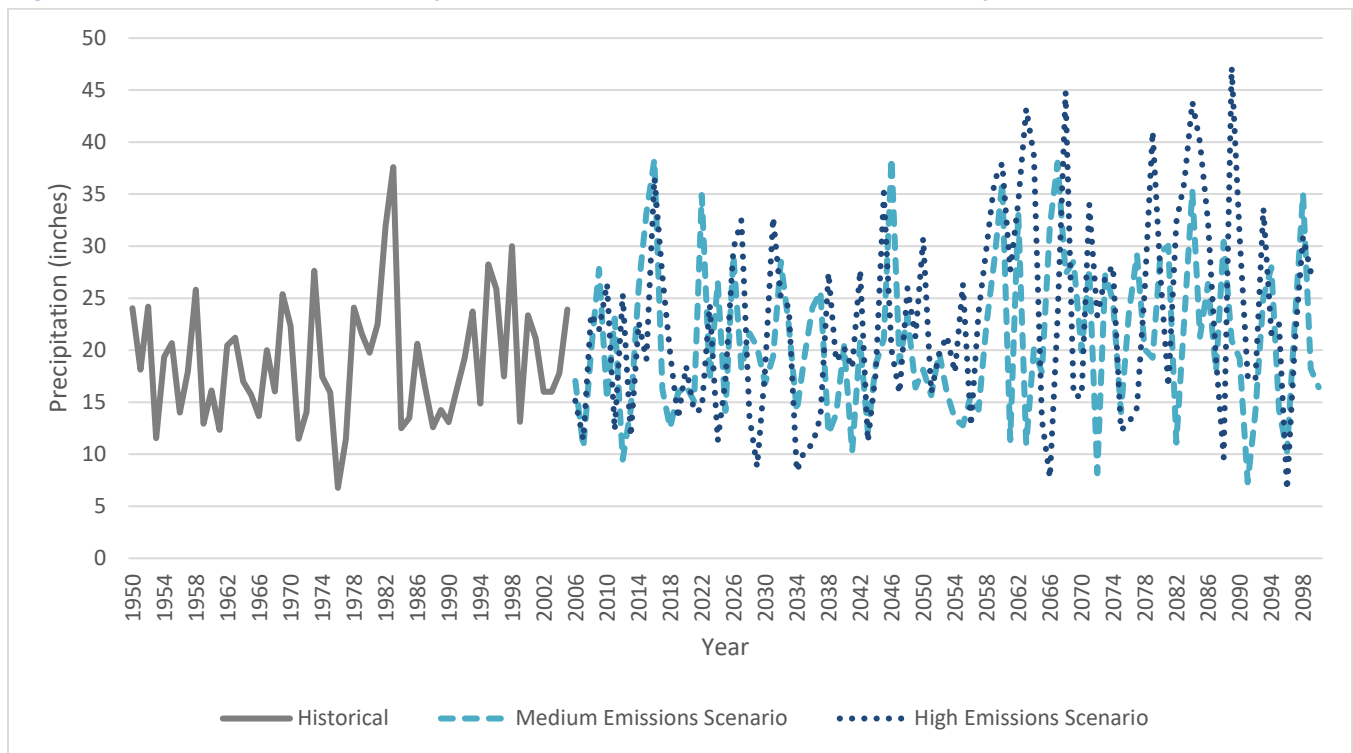
**Table B-3 Changes in Annual Average Precipitation in Sacramento County**

Annual Average Precipitation	Historic Annual Average Precipitation (1961-1990)	Medium Emissions Scenario (RCP 4.5)		High Emissions Scenario (RCP 8.5)	
		Mid-Century (2035-2064)	Late Century (2070-2099)	Mid-Century (2035-2064)	Late Century (2070-2099)
Annual Average Precipitation (in)	18.3	20.3	20.3	20.5	22.1

Notes: in = inches, RCP = Representative Concentration Pathway

Source: CEC 2020a

**Figure B-3 Historical and Projected Precipitation in Sacramento County**



Source: Data downloaded from Cal-Adapt in 2020; adapted by Ascent Environmental in 2020.

Changes in precipitation patterns will affect secondary climate effects including extreme heat, wildfires, drought, flooding, and sea level rise.

## **SECONDARY EFFECT: EXTREME HEAT**

Cal-Adapt defines an extreme heat day as a day in a year when the daily maximum/minimum temperature exceeds the 98th historical percentile of daily maximum/minimum temperatures based on observed historical data from 1961–1990 between April and October. The extreme heat threshold for the County<sup>1</sup> is 103.8°F. Historically, the County experienced an average of four extreme heat days per year. Extreme heat days are already increasing in Sacramento County, with a current average of eight to nine extreme heat days per year from 2010 to 2016, including 18 extreme heat days in 2015. As a result of rising average maximum temperatures from climate change, the County is projected to experience up to 17 extreme heat days annually by mid-century and 24 extreme heat days by the late century under the medium emissions scenario. Under the high emissions scenario, the County is projected to experience up to 22 extreme heat days annually by mid-century and 40 extreme heat days by the late century (CEC 2020b).

Heat waves, which are defined as four or more consecutive extreme heat days, have been historically infrequent in Sacramento County; however, climate change will cause a substantial rise in the frequency of heat waves under both emissions scenarios. Under the medium emissions scenario, projections show an increase in heat waves to about 1.9 per year by mid-century and up to 2.8 per year by late century. Under the high emissions scenario, projections show an increase of 2.6 heat waves per year by mid-century and up to 5.8 per year by late century.

## **SECONDARY EFFECT: WILDFIRES**

According to the 2016 Sacramento County Local Hazard Mitigation Plan (LHMP), rural wildfire and urban wildfire are ongoing concerns for the County. Currently, the major wildland fire hazards occur at the wildland urban interface where development is placed close to natural environments that support wildfire (Sacramento Metropolitan Fire District [Metro Fire] 2014).

Increased temperatures and changes in precipitation patterns associated with climate change are expected to increase the risk of wildfire in Sacramento County. Higher temperatures and reduced precipitation results in reduced average moisture in vegetation, which leads to the drying out of fuel loads that support more intense wildfires. The eastern portion of Sacramento County, where the topography includes more widespread steeper slopes, is most vulnerable to wildfire.

## **SECONDARY EFFECT: DROUGHT**

Sacramento County is not located in an area where snow accumulates; however, major water districts and utilities in the County receive and depend on a substantial amount of water from watersheds that rely upon spring and early-summer snowmelt in the Sierra Nevada mountain range. The Sierra Nevada snowpack, which serves as a natural water supply reservoir for California during the dry months, is predicted to decline in area covered and water volume stored, as average temperatures rise and precipitation falls more frequently as rain instead of snow at mountain elevations. Further, increased temperatures will affect the timing of historical snowmelt such that the snowpack will typically melt earlier

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<sup>1</sup> Cal-Adapt does not include countywide aggregated climate data for extreme heat. Thus, the geographic area surveyed for extreme heat relies on aggregated data from the City of Sacramento, which serves as a proxy for the County.

in the year, causing more rapid early spring flows in the Sacramento, American, Cosumnes, and Mokelumne Rivers and reduced late spring/summer flows.

Approximately 50 percent of Sacramento County is served by groundwater supplies. Changes in surface water flow will have a direct impact on groundwater recharge, including decreased periods of recharge when late spring/summer stream flows diminish. Further, groundwater usage is higher in periods of drought; therefore, groundwater supplies may be reduced during and after periods of limited surface water flows.

California (including Sacramento County) is prone to prolonged drought. The state experienced severe drought in 1973, 1976 through 1977, 1987 through 1991, 2007 through 2009, and 2012 through 2016. During the most recent severe drought period in June of 2015, statewide reservoir storage levels were between 18 and 67 percent of normal (State Water Resources Control Board [SWRCB] 2017). Climate change is expected to increase the number, duration, and severity of future droughts. Exacerbated drought conditions, early snowmelt, and reduced snowpack size, combined with increased demand as population and development increases, could result in water supply constraints in future years.

## **SECONDARY EFFECT: FLOODING**

Climate change is likely to lead to changes in the frequency, intensity, and duration of extreme weather events, such as sustained periods of heavy precipitation, increased rainfall intensity during precipitation events, and increased risk of rain-on-snow events. Further, more winter-time precipitation that falls as rain instead of snow, and higher temperatures that will cause earlier snowmelt, which could produce substantial surface water flows over a short period of time and may potentially affect dams and spillways and overwhelm levee systems designed for historical precipitation patterns. Historically, the county<sup>2</sup> experienced an average of three extreme precipitation events per year. Under both the medium and high emissions scenarios, the county is expected to experience four extreme precipitation events per year by mid-century and five extreme precipitation events per year by the late century (CEC 2020c).

According to the LHMP, the County is “Highly Likely” to experience localized flooding (likelihood of occurrence every year or every other year), “Occasional” to experience a 100-year flood event (one to ten percent likelihood of occurrence every year), and “Unlikely” to experience a 200- and 500-year flood event (less than one percent chance of occurrence every year).

## **SECONDARY EFFECT: SEA-LEVEL RISE**

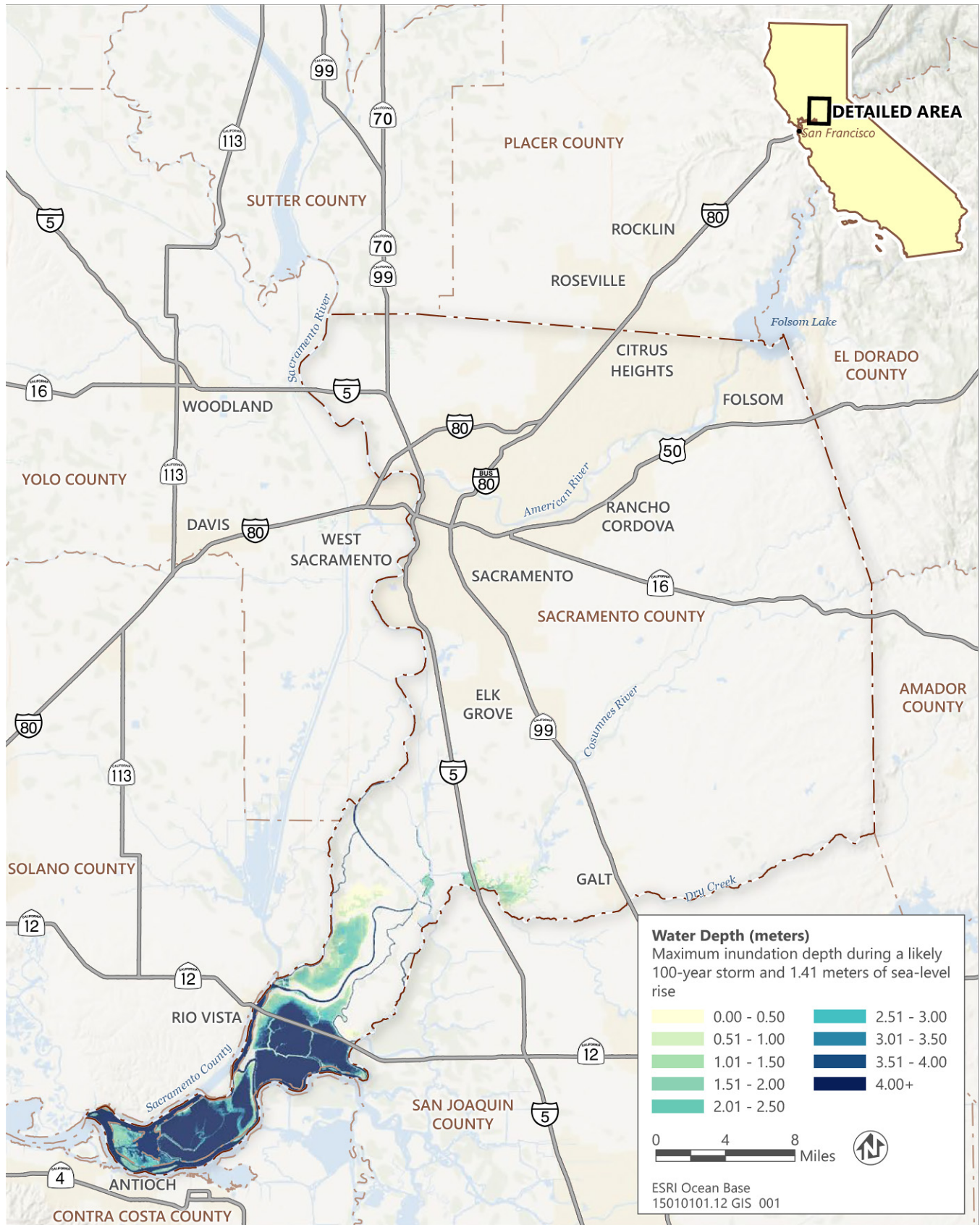
Another outcome of global climate change is sea-level rise. As shown in Figure B-4, the southwestern portion of the County, which includes the lower reaches of the Sacramento River as it approaches the Sacramento-San Joaquin Delta, is the area of the County vulnerable to the effects of sea-level rise. Land uses in this area of the County are primarily rural and agricultural.

Sea-level rise may also result in greater saltwater incursion up the Sacramento River. Increased municipal and agricultural demand for fresh water, rising sea levels in the Delta, and reduced freshwater flow in the Sacramento River may affect water quality within the river. Water quality is dependent on a complex interaction of several variables, however, so the risk of future climate change implications on water quality in the Sacramento River is uncertain.

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<sup>2</sup> Cal-Adapt does not include countywide aggregated climate data for extreme precipitation. Thus, the geographic area surveyed for extreme precipitation relies on aggregated data from the City of Sacramento, which serves as a proxy for the County.

**Figure B-4 Sea-Level Rise Projections for Sacramento County, 1.41 Meter Rise Scenario**



Source: Ascent Environmental 2021



## 1.2.2 Sensitivity and Potential Impacts

Climate change effects will impact some population groups, community functions, and physical assets more severely than others.

- ▶ **Population** includes both the general human population and segments of the population that are most likely to be sensitive or vulnerable to climate change impacts. Vulnerable populations within the County include linguistically isolated populations, the elderly, persons experiencing homelessness, outdoor workers, tribal nations, low-income communities, and disadvantaged communities who already bear a disproportionate pollution burden.
- ▶ **Functions** are essential services that provide for public health and safety, ecosystem functioning, and the economy. These include hospitals, medical facilities, police and fire stations, emergency operations centers, evacuation shelters, and schools. Transportation networks and lifeline utility systems are also critical to public health and safety. Functions also include economic systems such as agriculture, recreation, and tourism, as well as natural resources.
- ▶ **Structures** are physical assets in a community such as residential and commercial buildings, institutions (i.e., schools, churches, hospitals, prisons, etc.), recreational facilities, transportation infrastructure, parks, dikes and levees, and water and wastewater treatment infrastructure. It also includes high potential loss facilities, where damage would have large environmental, economic, or public safety considerations (e.g., nuclear power plants, dams, military installations, hazardous materials facilities).

This step in the vulnerability assessment involves identification of populations, functions, and structures that may be affected in the County by projected exposures to climate change impacts and their degree of sensitivity. A summary of potential impact scores is included in Table B-1. "Low" designates impacts that are unlikely based on projected exposure and would result in minor consequences to public health, safety, and/or other metrics of concern. "Medium" potential impacts are those that are somewhat likely based on projected exposure and would result in some consequences to public health, safety, and/or other metrics of concern. "High" potential impacts are those that are highly likely based on projected exposure and would result in substantial consequences to public health, safety, and/or other metrics of concern (CalOES 2020).

### INCREASED TEMPERATURES AND EXTREME HEAT DAYS AND HEAT WAVES

Higher frequency of extreme heat days and heat waves can cause serious public health impacts, increasing the risk of conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Higher temperatures also worsen air quality through the increased air pollution. Developed areas are especially at risk, as extreme heat events will exacerbate the phenomenon known as the urban heat island effect (UHIE). In built-up areas vegetation is sparse, roofs and asphalt pavement dominate the landscape, absorbing and retaining heat during the day and releasing it at night. Climate change poses significant challenges for achieving health equity, because populations that are socially and economically vulnerable often bear a disproportionate burden of climate effects. People in low-income areas, some of which are communities of color; people with existing health issues, such as chronic diseases and mental health conditions; young children and the elderly; people experiencing homelessness; outdoor workers, including farmers; immigrants; some tribal nations; and socially or linguistically isolated people are most vulnerable to the impacts of climate change. Vulnerable populations are less likely to have air conditioning to cool homes or shade from trees in their neighborhoods, more likely to experience infrastructure limitations, more likely to have one or more chronic medical conditions, and less likely to own cars that can provide mobility to avoid deleterious climate effects.

Extreme heat can also affect the functioning of essential services, economic systems, and ecosystems. High temperatures decrease the efficiency of power transmission lines, while demand for electricity simultaneously goes up as operation of air conditioners and cooling equipment increases. This results in more frequent blackouts and could affect the operation of infrastructure (SACOG 2015:23). Increased temperatures also lead to greater rates of evapotranspiration, leading to increased demand for outdoor watering and increasing stressors on the County's water supply. Extreme heat events can also impact outdoor activities like recreation, tourism, and agriculture. Increased temperatures and warmer nights as a result of climate change will likely reduce yield of some of California's most valuable specialty crops, result in heat stress to livestock, and alter the range of crop-damaging pests (CNRA 2014:24). Rising temperatures will also affect natural resources in Sacramento County. Temperature-sensitive terrestrial plant and animal species exposed to higher temperatures may shift their existing ranges to higher latitudes and elevations, cooler coastal environments, or local microclimate refuges. Vernal pool ecosystems, in particular, are vulnerable to increases temperatures and prolonged periods of heat.

Prolonged exposure to extreme heat can damage physical assets and infrastructure, resulting in roadway degradation, bridge expansion and contraction, and rail track buckling.

## **INCREASED RISK OF WILDFIRE**

Increased frequency and intensity of wildfires will directly affect the safety of populations living within or near wildland areas (i.e., wildland-urban interface) prone to wildfire. Wildfires also result in the release of harmful air pollutants into the atmosphere, which dissipate and can affect the respiratory health of residents across a broad geographical scope.

Wildfires affect the functioning of transportation systems, emergency services, recreation and tourism, and healthy ecosystems. Roadway closures during a wildfire may result in poor emergency vehicle access and the isolation of rural and remote populations throughout the County (Valley Vision 2014). Hospitals may incur additional strain on their resources to accommodate an influx in emergency room visits during wildfire events. Wildfires impede recreational uses as well as the associated tourism revenue (Valley Vision 2014). Damage to ecological functions may also result due to catastrophic wildfire. When rain falls in burn scarred areas, there is a higher potential for soil erosion and mud flows into roads, ditches, and streams, which reduces water quality.

Lastly, wildfires can damage and destroy physical assets and infrastructure. In particular, critical transmission lines and hydroelectric infrastructure may be vulnerable to damage or temporary shutdown caused by wildfires (SMUD 2012).

## **INCREASED DROUGHT**

Although the County has yet to face a critical loss in water resources, it is possible that climate-induced drought and increased water demand due to population growth could result in future water shortages wherein residents must implement severe cutback strategies. Those relying on wells or groundwater may also face challenges in meeting water demands as rates of groundwater recharge decline (CalBRACE 2015). Drought conditions can also affect public health by increasing the spread of vector-borne illnesses, such as the airborne transmission of pathogenic fungi spores, generated by parched agricultural land.

Energy production, agriculture, recreation, and ecosystem functions are especially vulnerable to drought. A declining volume of snowmelt coupled with earlier periods of melting could have severe consequences for the region's hydro-electricity generation. Drought and increased agricultural demand for water during extreme heat conditions could result in water insecurity for the sector. Reduced surface water flow in the County's watersheds could affect river-based economic and recreational opportunities such as the fishing, rafting, camping, and backpacking, and swimming activities in the tributaries of the Sacramento, American, Cosumnes, and Mokelumne rivers. Reduced streamflow combined with increased human demand for water could lower the availability of water for wildlife and alter the composition and structure of riparian communities (CDFW 2015).

In terms of damage to physical assets, drought conditions can increase in dependence on groundwater supplies and result in overdraft of groundwater basins. The Sacramento and San Joaquin groundwater basins have experienced "historical overdraft," where groundwater extraction exceeded rates of groundwater recharge (CA DWR 1980). Overdraft can lead to land subsidence wherein a gradual settling or sudden sinking of the earth's surface occurs. The effects of subsidence could impact houses and other structures such as transportation infrastructure, water well casing failures, and changes to the elevation and gradient of stream channels, drains, and other water transport structures (CNRA 2014:235).

## **INCREASED FLOODING**

Increased flooding due to climate change will most adversely affect vulnerable populations living in floodplains. Low-income populations suffer higher mortality rates, and their homes sustain greater damage due to the housing stock, location, and inability to afford structural upgrades or flood insurance to mitigate the effects of flooding (Burton and Cutter 2008:144). Low-income households may also lack transportation and other resources to respond to or evacuate during a flood event. Race, class, ethnicity, and immigration status are also drivers of flood-related social vulnerability, as these may impose cultural and language barriers that affect emergency communications and access to post-disaster resources for recovery. Additionally, floodwater can interact with sources of pollution and distribute hazardous pollutants locally and regionally, resulting in water contamination and human health impacts.

Floods can disrupt transportation networks, cause economic losses through closure of businesses and government facilities, disrupt communications, disrupt the provision of utilities such as water and sewers, result in excessive expenditures for emergency response, and generally disrupt the normal function of a community (Sacramento County 2016). Roadway closures due to extended periods of flooding could prevent residents from accessing key supplies, such as food, electricity, fuel, and potable water. Flooding may also threaten ecosystem functioning and agricultural resources: unlike natural flooding regimes that deposits useful sediment resulting in increased soil fertility as well as groundwater recharge, catastrophic flooding from levee overtopping could lead to soil erosion and loss of viable cropland. It could also release sewage and hazardous materials into the environment if wastewater treatment plants are inundated, storage tanks are damaged, and pipelines severed.

Lastly, severe flooding is capable of destroying building and infrastructure such as bridges, roadways, electrical boxes, drainage systems, and levees. Extreme weather events could weaken or collapse levees in the Delta and could breach Sacramento and American river levees especially where they have not yet been upgraded or do not meet the minimum National Flood Insurance Program requirements.

## SEA-LEVEL RISE

Portions of the County susceptible to sea-level rise are the low-lying lands near the Sacramento River in the southwest portion of the County. This area of the County is moderately disadvantaged according to the California Health Disadvantaged Index developed by the Public Health Alliance. As discussed above under the heading, “Increased Flooding,” populations of high social vulnerability face challenges in responding or mitigating against flood events, including those associated with sea-level rise, due to low socioeconomic status, language barriers, educational status, and limited mobility (Climate Central n.d.).

Sea-level rise impacts to community functions and physical assets are similar to those described above in “Increased Flooding.” The portion of the county susceptible to sea-level rise will face a greater threat of flooding because of the aging levees in the Delta and predicted increase in storm intensity affecting the American and Sacramento River watersheds (Curtis and Schneider 2011). Additionally, sea-level rise may affect the salinity of the Sacramento-San Joaquin Delta and cause saltwater intrusion into the Sacramento River, affecting water quality and supply throughout the region and state (CA DWR 2008, Water Education Foundation 2016).

### 1.2.3 Adaptive Capacity

The County, partner agencies, and organizations within the County have already taken steps to build resiliency and protect sensitive populations, functions, and assets from hazards. Review of existing local policies, plans, programs, resources, or institutions provides a good snapshot of the County’s ability to adapt to climate change and reduce vulnerability. Based on this information, the County’s adaptive capacity for each climate impact can be rated high, medium, or low. High adaptive capacity indicates that sufficient measures are already in place to address the points of sensitivity and impacts associated with climate change, while a low rating indicates a community is unprepared (CNRA 2012:26). Major plans and initiatives that address climate-related hazards include the following:

- ▶ **Sacramento County General Plan of 2005 – 2030:** includes policies to encourage sustainable building practices, efficient use of resources (i.e., water, land, and energy), and ecological stewardship. It also includes policies aimed at protecting its aging population, which are more vulnerable to health-related effects of climate change impacts and require better access to public services and housing (Sacramento County 2011a)
- ▶ **2016 Sacramento Countywide Local Hazard Mitigation Plan Update:** addresses current and future impacts related to existing natural hazards such as flooding, levee failure, and wildfires (Sacramento County 2016). The LHMP is currently undergoing an update to address an updated list of hazards, impacts to the people and assets, and to establish updated goals and prioritize projects to reduce the impacts of future disasters on people and property as well as to critical facilities and infrastructure. It is anticipated that a draft of the updated LHMP will be available late spring 2021.
- ▶ **Capital Region Climate Readiness Collaborative (CRCRC):** the County is an active member of the CRCRC, which works across multiple sectors to advance resiliency across the region and the state. The CRCRC works regionally and across the state with other similar collaboratives, under the Alliance of Regional Collaboratives for Climate Adaptation, to address climate change, understand and inform the region on best practices for resiliency and adaptation to build strong, resilient, healthy, equitable, and sustainable communities across California.

- ▶ **Adaptive Efforts Related to Increased Temperature:** the Sacramento County Office of Emergency Services (SacOES) provides community-wide information for how to stay safe during periods of extreme heat through their Sacramento Ready Program, the County participates in the Property Assessed Clean Energy financing programs to help homeowners finance home energy and water efficiency upgrades, and numerous organizations within the County support urban greening and forestry efforts. The Sacramento Municipal Utility District (SMUD) implements a Cool Roof Incentive program.
- ▶ **Adaptive Efforts Related to Wildfire:** the County adopted the 2013 California Fire Code, which includes defensible space requirements and provisions to help prevent the accumulation of combustible vegetation. Metro Fire’s Community Wildfire Protection Plan is a comprehensive plan to protect human life and reduce loss of property, critical infrastructure, and natural resources associated with wildfire. Through the CWPP, Metro Fire implements strategies to prevent and combat wildfire within its jurisdictional boundaries (Metro Fire 2014).
- ▶ **Adaptive Efforts Related to Drought:** the County adopted a Water Efficient Landscape Ordinance and participates in stormwater quality education and management. The Sacramento County Water Agency (SCWA) supports water conservation programs and participates in the Sacramento Area Water Forum, which aims to provide a reliable and safe water supply for the region’s economic health and planned development through the year 2030 and to preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River (Sacramento County 2011b).
- ▶ **Adaptive Efforts Related to Increased Flooding:** Countywide Design Guidelines require flood protection and drainage facilities to be designed to provide multiple public benefits wherever possible. The County has also completed concrete-lined creek naturalization projects to restore habitat and increase climate resiliency. Other agencies such as the Delta Stewardship Council, Sacramento Area Flood Control Agency (SAFCA), the Central Valley Flood Protection District, and the U.S. Army Corps of Engineers (USACE) have programs in place to improve flood protection infrastructure.
- ▶ **Adaptive Efforts Related to Sea-Level Rise:** while there are few sea-level-rise focused efforts, existing programs and strategies that address flood risk can also mitigate the impacts of sea-level rise.

A summary of the County’s adaptive capacity scores is included in Table B-1. “Low” adaptive capacity means the population or asset lacks capacity to manage climate impact and major changes would be required. “Medium” adaptive capacity means the population or asset has some capacity to manage climate impact and some changes would be required. “High” adaptive capacity means the population or asset has high capacity to manage climate impact and no changes are required.

Vulnerability scores are determined based on how severe projected climate exposures will be, the degree of sensitivity of population groups and assets to anticipated climate effects, and whether sufficient adaptive capacity exists to manage the potential impact. This scoring can help the County understand which effects pose the greatest threats and should be prioritized in future planning efforts. Table B-1 shows the County’s vulnerability scores on a scale of 1 to 5, in accordance with the APG’s guidance. The highest scoring climate impacts are those where the potential impact is high and existing adaptive capacity is low.

## APPENDIX C: SACRAMENTO COUNTY 2030 GENERAL PLAN POLICIES SUPPORTING CLIMATE ACTION

The County’s 2030 General Plan is intended to guide growth and development within the unincorporated County, and addresses a wide variety of issues from land use and housing to open space and safety. The general plan policies are intended to enhance and preserve the quality of life for County residents, enhance economic strengths, and preserve agricultural heritage. Notably, many general plan goals and policies also serve to advance climate change mitigation and build countywide resiliency. Table C-1 contains General Plan policies that relate to GHG reduction and adaptation and supporting CAP measures.

**Table C-1: Summary of Adaptation Measures**

Element	General Plan Policy Text	Supportive CAP Measures
Agricultural	AG-1. The County shall protect prime, statewide importance, unique and local importance farmlands located outside of the USB from urban encroachment.	
Agricultural	AG-2. The County shall not accept applications for General Plan amendments outside the Urban Services Boundary (USB) redesignating prime, statewide importance, unique and local importance farmlands or lands with intensive agricultural investments to agricultural/residential or urban use (i.e., residential, commercial, industrial) unless the applicant demonstrates that the request is consistent with the General Plan Agriculture-Residential expansion policies (please refer to Land Use Element Policies regarding Agriculture-Residential uses).	
Agricultural	AG-12. The County will cooperate with landowners of agriculturally zoned properties to promote the placing of natural preserve/mitigation amenities on land, such as trees and other biota enhancing improvement, by making sure amenities are assets to both the natural preserve/mitigation areas and agriculture practices.	
Agricultural	AG-15. The County shall pursue opportunities to create mitigation banks, environmental mitigation sites, wildlife refuges, or other natural resource preserves wherein substantial agricultural activities that are compatible with protection of high habitat values continue, but incompatible activities and conversion for development are precluded by conservation easements.	
Agricultural	AG-17. The establishment of conservation easements combining preservation of agricultural uses, habitat values, and open space on the same property should be encouraged where feasible.	
Agricultural	AG-21. The County encourages the preservation of prime, statewide importance, unique and local importance farmlands, including opposing any residential or commercial development for the Cosumnes River or Deer Creek riparian areas which are not compatible with agricultural uses	
Agricultural	AG-22. If land within the Cosumnes River watershed is developed for non-agricultural purposes, the County should actively pursue	

Element	General Plan Policy Text	Supportive CAP Measures
	easement dedication for equestrian trails and bikeways within such development as a condition of approval.	
Agricultural	AG-23. The County seeks to minimize agricultural/trail-user conflicts by recommending and seeking buffer zones between trails and nearby agricultural land and by locating trails away from the Cosumnes and Deer Creek riparian areas.	
Agricultural	AG-25. Outside the Urban Service Boundary, encourage landowners to enter into Williamson Act contracts or, as appropriate, to rescind Notices of Nonrenewal. Provide support to keep property in the Williamson Act by allowing agricultural-friendly land use practices that include additional economic incentives, and support replacing existing Williamson Act contracts with amended contracts that include agricultural-friendly land use practices.	
Agricultural	AG-26. Support the state-formed program for Farmland Security Zones (also known as the Super Williamson Act).	
Agricultural	AG-27. The County shall actively encourage groundwater recharge, water conservation and water recycling by both agricultural and urban water users.	
Agricultural	<p>AG-29. The County shall minimize flood risks to agricultural lands resulting from new urban developments by:</p> <ul style="list-style-type: none"> <li>▶ Requiring that such developments incorporate adequate runoff control structures and/or</li> <li>▶ Assisting implementing comprehensive drainage management plans to mitigate increased risks of farmland flooding resulting from such developments.</li> </ul>	
Agricultural	AG-31. Control agricultural losses caused by pests and fires resulting from lack of management of idled farmlands.	
Agricultural	AG-32. The County shall allow construction and occupancy of agricultural accessory dwellings provided that such dwellings provide living quarters for full-time, on-site agricultural employees.	
Agricultural	AG-35. The County shall support Agri-tourism for different geographical areas of the County that includes categorical definitions for intensity and type of uses that allow for flexibility in agricultural practices and market opportunities while paying particular attention to compatibility with surrounding uses.	
Air Quality	AQ-1. New development shall be designed to promote pedestrian/bicycle access and circulation to encourage community residents to use alternative modes of transportation to conserve air quality and minimize direct and indirect emission of air contaminants.	<p>GHG-11: Reduce Vehicles Miles Traveled From New Development</p> <p>GHG-13: Minimum Parking Standards</p>
Air Quality	AQ-2. Support Regional Transit's efforts to secure adequate funding so that transit is a viable transportation alternative. Development shall pay its fair share of the cost of transit facilities required to serve the project.	GHG-12: Transportation System Management Plan

Element	General Plan Policy Text	Supportive CAP Measures
		GHG-14: Improved Transit Access
Air Quality	AQ-3. Buffers and/or other appropriate mitigation shall be established on a project-by-project basis and incorporated during review to provide for protection of sensitive receptors from sources of air pollution or odor. The California Air Resources Board’s “Air Quality and Land Use Handbook: A Community Health Perspective”, and the AQMD’s approved Protocol (Protocol for Evaluating the Location of Sensitive Land uses Adjacent to Major Roadways) shall be utilized when establishing these buffers.	
Air Quality	AQ-4. Developments which meet or exceed thresholds of significance for ozone precursor pollutants as adopted by the Sacramento Metropolitan Air Quality Management District (SMAQMD), shall be deemed to have a significant environmental impact. An Air Quality Mitigation Plan shall be submitted to the County of Sacramento prior to project approval, subject to review and recommendation as to technical adequacy by the Sacramento Metropolitan Air Quality Management District.	
Air Quality	AQ-5. Reduce emissions associated with vehicle miles travelled and evaporation by reducing the surface area dedicated to parking facilities; reduce vehicle emissions associated with “hunting” for on-street parking by implementing innovative parking innovative parking solutions including shared parking, elimination of minimum parking requirements, creation of maximum parking requirements, and utilize performance pricing for publicly owned parking spaces both on- and off-street, as well as creating parking benefit districts.	GHG-13: Minimum Parking Standards
Air Quality	AQ-6. Provide incentives for the use of transportation alternatives, including a program for the provision of financial incentives for builders that construct ownership housing within a quarter mile of existing and proposed light rail stations.	GHG-21: Update Community and Corridor Plans
Air Quality	AQ-7. Implement a model trip reduction program for County employees which may include, but not be limited to, flexible and compressed work schedules, commuter matching services, telecommuting, preferential carpool/vanpool parking, carpool/vanpool and transit subsidies, and all other commute alternative incentives.	EC-1: Employee Transportation Program  EC-2: Transit Subsidy Program  EC-3: Employee Shuttle System  EC-4: Secure Bicycle Storage Facilities  EC-5: Carpool-at-Work Incentives



Element	General Plan Policy Text	Supportive CAP Measures
Air Quality	AQ-8. Promote mixed-use development and provide for increased development intensity along existing and proposed transit corridors to reduce the length and frequency of vehicle trips.	GHG-21: Update Community and Corridor Plans
Air Quality	AQ-9. When park-and-ride facilities are requested by transit providers, the spaces provided for the park-and-ride facility may be counted as part of the total amount of parking required by the zoning code.	
Air Quality	AQ-10. Encourage vehicle trip reduction and improved air quality by requiring development projects that exceed the SMAQMD's significance thresholds for operational emissions to provide on-going, cost-effective mechanisms for transportation services that help reduce the demand for existing roadway infrastructure.	GHG-11: Reduce Vehicles Miles Traveled From New Development
Air Quality	AQ-11. Encourage contractors operating in the county to procure and to operate low-emission vehicles, and to seek low emission fleet status for their off-road equipment.	GHG-10: Electric Vehicle Infrastructure Program  GHG-08: Tier 4 Final Construction Equipment
Air Quality	AQ-12 Minimize air pollutant emissions from Sacramento County facilities and operations.	Measure BE-1: Green Building Policy
Air Quality	AQ-13. Use California State Air Resources Board (ARB) and SMAQMD guidelines for Sacramento County facilities and operations to comply with mandated measures to reduce emissions from fuel consumption, energy consumption, surface coating operations, and solvent usage.	Measure BE-1: Green Building Policy  Measure F-1: Fleet Conversion Program
Air Quality	AQ-14. Support SMAQMD's development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds and rules to more adequately address the air quality impacts of plans and proposals proposed by the County.	GHG-18: Improve Fuel Efficiency Standards
Air Quality	AQ-15. Support intergovernmental efforts directed at stricter tailpipe emissions standards.	GHG-18: Improve Fuel Efficiency Standards
Air Quality	AQ-16. Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.	Measure CLV-08: Electrify Loading Docks
Air Quality	AQ-17. Promote optimal air quality benefits through energy conservation measures in new development.	GHG-05: Increase Energy Efficiency in New Commercial Buildings

Element	General Plan Policy Text	Supportive CAP Measures
		GHG-08: Tier 4 Final Construction Equipment  Measure CLV-04: Electric or Alternatively Fueled Construction Equipment
Air Quality	AQ-18. Require the recovery of chlorofluorocarbons (CFC's) when older air conditioning and refrigeration units are serviced or disposed.	Measure GRN-02: Limit Refrigerants in Stationary Air Conditioning with a Global Warming Potential Greater than 750
Air Quality	AQ-19. Require all feasible reductions in emissions for the operation of construction vehicles and equipment on major land development and roadway construction projects.	Measure GHG-08: Tier 4 Final Construction Equipment
Air Quality	AQ-20. Promote Cool Community strategies to cool the urban heat island, reduce energy use and ozone formation, and maximize air quality benefits by encouraging four main strategies including, but not limited to: plant trees, selective use of vegetation for landscaping, install cool roofing, and install cool pavements.	GHG-06: Energy Efficiency and Electrification of Existing Residential Buildings  GHG-04: Energy Efficiency and Electrification of Existing Nonresidential Buildings  GHG-02: Urban Forestry  Measure Temp-02: Partner with Local Agencies and Utilities on Heat-Related Climate Change Initiatives and Efforts  Measure Temp-04: Encourage the Installation or Use of Cool-Roof Technologies, Passive Solar Home

Element	General Plan Policy Text	Supportive CAP Measures
		<p>Design, Green Roofs, and Rooftop Gardens</p> <p>Measure Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover</p>
Air Quality	AQ-22. Reduce greenhouse gas emissions from County operations as well as private development.	
Circulation	CI-1. Provide complete streets to provide safe and efficient access to a diversity of travel modes for all urban, suburban and rural land uses within Sacramento County except within certain established neighborhoods where particular amenities (such as sidewalks) are not desired. Within rural areas of the County, a complete street may be accommodated through roadway shoulders of sufficient width or other means to accommodate all modes of travel.	<p>GHG-15: Improved Pedestrian Network and Facilities</p> <p>GHG-16: Traffic Calming Measures</p> <p>GHG-17: Improved Bicycle Network and Facilities</p> <p>GHG-22: Connecting Key Destinations</p>
Circulation	CI-2. Promote continued mobility for individuals whose access to automobile transportation is limited by age, illness, income, desire, or disability.	<p>GHG-14: Improved Transit Access</p> <p>GHG-15: Improved Pedestrian Network and Facilities</p> <p>GHG-17: Improved Bicycle Network and Facilities</p> <p>GHG-20: Safe Routes to School</p> <p>GHG-22: Connecting Key Destinations</p>
Circulation	CI-3. Travel modes shall be interconnected to form an integrated, coordinated and balanced multi-modal transportation system, planned and developed consistent with the land uses to be served.	GHG-21: Update Community and Corridor Plans

Element	General Plan Policy Text	Supportive CAP Measures
		GHG-22: Connecting Key Destinations
Circulation	CI-4. Provide multiple transportation choices to link housing, recreational, employment, commercial, educational, and social services.	GHG-21: Update Community and Corridor Plans  GHG-22: Connecting Key Destinations
Circulation	CI-5. Land use and transportation planning and development should be cohesive, mutually supportive, and complement the objective of reducing per capita vehicle miles travelled (VMT).	Measure NWL-05: Smart Growth  GHG-21: Update Community and Corridor Plans  GHG-22: Connecting Key Destinations  Measure INC-06: Civic Lab
Circulation	CI-6. Provide support for community based corridor planning processes on existing roadways with excess vehicle capacity within built communities to optimize the public right-of-way by utilizing the excess width for other modes of travel or public amenities such as bike lanes, landscaping, walkways, parking, or medians.	GHG-15: Improved Pedestrian Network and Facilities  GHG-16: Traffic Calming Measures  GHG-17: Improved Bicycle Network and Facilities  GHG-21: Update Community and Corridor Plans
Circulation	CI-7. Plan and construct transportation facilities as delineated on the Transportation Plan of the Sacramento County General Plan. Transportation facilities shall be consistent with the Sacramento County Improvement Standards and Construction Specifications, the Connector Project Design Guidelines, and supplemented by the California Department of Transportation (Caltrans) design standards. The County may deviate from the adopted County Improvement Standards and Construction Specifications in circumstances where conditions warrant special treatment. The Capital SouthEast Connector, as designated in the Transportation Plan map, shall be consistent with the most current JPA-approved "Capital SouthEast Connector JPA Project Design Guidelines," provided that the Project Design Guidelines will not be applied to diminish or alter the rights of County-approved projects and provided that the design exception	Measure NWL-05: Smart Growth

Element	General Plan Policy Text	Supportive CAP Measures
	<p>process within the Project Design Guidelines is not amended to diminish the County's land use authority to approve future projects proximate to or its authority to determine access to the Capital SouthEast Connector.</p> <p>The Capital SouthEast Connector is intended to serve the transportation demand for both existing land uses and future growth within the Urban Services Boundary (USB). The County reserves all of its rights and powers to assure that sufficient access to and from the Connector roadway is available to accommodate the existing land uses as well as the future growth within the USB. For areas of the unincorporated County outside of the USB, the County will limit access to and from the Connector roadway to only accommodate the existing and future land uses permitted outside of the USB.</p>	
Circulation	CI-8. Maintain and rehabilitate the roadway system to maximize safety, mobility, and cost efficiency.	GHG-16: Traffic Calming Measures
Circulation	CI-9. Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways, unless it is infeasible to implement project alternatives or mitigation measures that would achieve LOS D on rural roadways or LOS E on urban roadways. The urban areas are those areas within the Urban Service Boundary as shown in the Land Use Element of the Sacramento County General Plan. The areas outside the Urban Service Boundary are considered rural.	GHG-16: Traffic Calming Measures
Circulation	CI-10. Land development projects shall be responsible to mitigate the project's adverse impacts to local and regional roadways.	GHG-12: Transportation System Management Plan
Circulation	CI-12. To preserve public safety and local quality of life on collector and local roadways, land development projects shall incorporate appropriate treatments of the Neighborhood Traffic Management Program.	GHG-16: Traffic Calming Measures
Circulation	CI-13. Collaborate with regional transportation planning agencies and neighboring jurisdictions to provide cross jurisdictional mobility.	<p>GHG-14: Improved Transit Access</p> <p>GHG-17: Improved Bicycle Network and Facilities</p> <p>GHG-22: Connecting Key Destinations</p>
Circulation	CI-15. Support the relinquishment of State Highways to the County when the operation of the highway supports local travel demand rather than longer interregional travel demand. Relinquished State Highways shall be developed as a complete street that accommodates all modes of travel.	GHG-22: Connecting Key Destinations
Circulation	CI-16. The County supports creating communities that promote access and mobility for all modes of travel through the development of roadway networks based on a grid or modified grid layout.	GHG-21: Update Community and Corridor Plans

Element	General Plan Policy Text	Supportive CAP Measures
		GHG-22: Connecting Key Destinations
Circulation	CI-17. Ensure that transportation infrastructure improvement projects initiated by the County include a comprehensive public outreach process and involves affected local stakeholders and communities in the beginning and throughout the planning and development process for the project.	
Circulation	CI-18. The County shall plan and prioritize the implementation of intersection improvements, where feasible, in corridors identified as congested.	GHG-16: Traffic Calming Measures
Circulation	CI-19. Collaborate with transit service providers to provide transit services within the County that are responsive to existing and future transit demand.	GHG-14: Improved Transit Access
Circulation	CI-20. Promote transit services in appropriate commercial corridors and where population and employment densities are sufficient or could be increased to support those transit services.	GHG-14: Improved Transit Access  GHG-21: Update Community and Corridor Plans
Circulation	CI-21. Collaborate with neighboring jurisdictions and other agencies to achieve land use patterns and densities in areas planned for development that support transit services, preserve adequate rights-of-way, and enhance transit services in the designated transit corridors	GHG-14: Improved Transit Access  GHG-21: Update Community and Corridor Plans
Circulation	CI-22. Collaborate with the Sacramento Area Council of Governments and transit service providers to pursue all available sources of funding for transit services when consistent with General Plan policies and long-term funding capabilities.	GHG-14: Improved Transit Access
Circulation	CI-23. Consider the transit needs of senior, disabled, low-income, and transit-dependent persons in making recommendations regarding transit services.	GHG-14: Improved Transit Access
Circulation	CI-24. Collaborate with transit service providers for the development of facilities that provide for efficient links and interconnectivity with different transportation modes, including bicyclists and pedestrians.	GHG-14: Improved Transit Access
Circulation	CI-25. The County shall develop right-of-way acquisition guidelines for the implementation of transit services shown on the Transportation Plan.	GHG-14: Improved Transit Access
Circulation	CI-26. Consider the expansion of Neighborhood Shuttle services in unincorporated area communities.	
Circulation	CI-27. Public Facilities Financing Plans shall incorporate capital costs for transit. Infrastructure Master Plans shall include transit planning.	GHG-14: Improved Transit Access
Circulation	CI-28 Collaborate with local transit service providers in obtaining all available sources of funding for the development, improvement, and maintenance of the transit system.	GHG-14: Improved Transit Access

Element	General Plan Policy Text	Supportive CAP Measures
Circulation	<p>CI-29. The County shall work with transit service providers to establish and implement development guidelines to maximize the ability of new development and redevelopment to support planned transit services. New development and redevelopment shall have an orientation to travel patterns that are conducive to transit service. This will include concentration of development in centers and along linear corridors such that trip origins and destinations are concentrated near transit services.</p>	<p>GHG-11: Reduce Vehicles Miles Traveled From New Development</p> <p>GHG-21: Update Community and Corridor Plans</p> <p>GHG-22: Connecting Key Destinations</p>
Circulation	<p>CI-30. The County shall collaborate with transit service providers to promote the phased implementation of transit services to all growth areas as development occurs.</p>	<p>GHG-14: Improved Transit Access</p> <p>GHG-21: Update Community and Corridor Plans</p> <p>GHG-22: Connecting Key Destinations</p>
Circulation	<p>CI-31. In BRT corridors that are anticipated to be congested in the future, the County shall implement all feasible measures to minimize the effects of congestion on transit travel times.</p>	<p>GHG-14: Improved Transit Access</p> <p>GHG-16: Traffic Calming Measures</p> <p>GHG-21: Update Community and Corridor Plans</p>
Circulation	<p>CI-32. Develop a comprehensive, safe, convenient and accessible bicycle and pedestrian system that serves and connects the County's employment, commercial, recreational, educational, social services, housing and other transportation modes.</p>	<p>GHG-15: Improved Pedestrian Network and Facilities</p> <p>GHG-17: Improved Bicycle Network and Facilities</p> <p>GHG-22: Connecting Key Destinations</p>
Circulation	<p>CI-33. Adopt, implement and periodically update the Sacramento County Bicycle Master Plan for unincorporated Sacramento County that sets forth the goals, policies, guidelines, programs and improvements necessary to accomplish the goals of this section.</p>	<p>GHG-17: Improved Bicycle Network and Facilities</p>
Circulation	<p>CI-34. Construct and maintain bikeways and multi-use trails to minimize conflicts between bicyclists, pedestrians, and motorists.</p>	<p>GHG-15: Improved Pedestrian Network and Facilities</p>

Element	General Plan Policy Text	Supportive CAP Measures
		GHG-17: Improved Bicycle Network and Facilities
Circulation	CI-35. The applicant/developer of land development projects shall be responsible to install bicycle and pedestrian facilities in accordance with Sacramento County Improvement Standards and may be responsible to participate in the fair share funding of regional multi-use trails identified in the Sacramento County Bicycle Master Plan.	GHG-11: Reduce Vehicles Miles Traveled From New Development  GHG-15: Improved Pedestrian Network and Facilities  GHG-17: Improved Bicycle Network and Facilities
Circulation	CI-36. Collaborate with neighboring jurisdictions and regional agencies to coordinate planning and development of the County's bikeways, pedestrian facilities and multiuse trails with those of neighboring jurisdictions, and to support a regional bicycle and pedestrian network.	GHG-15: Improved Pedestrian Network and Facilities  GHG-17: Improved Bicycle Network and Facilities
Circulation	CI-37. Pursue all available sources of funding for the development, improvement, and maintenance of bikeways, pedestrian facilities and multi-use trails, and to support bicycle and pedestrian safety, education, encouragement and enforcement programs.	GHG-15: Improved Pedestrian Network and Facilities  GHG-17: Improved Bicycle Network and Facilities
Circulation	CI-38. Design and construct pedestrian facilities to ensure that such facilities are accessible to all users.	GHG-15: Improved Pedestrian Network and Facilities
Circulation	CI-39. Plan and implement intelligent transportation system (ITS) strategies within the County's high-demand travel corridors and support efforts to deploy ITS strategies on a regional level.	GHG-16: Traffic Calming Measures
Circulation	CI-40. Whenever possible, the applicant/developer of new and infill development projects shall be conditioned to fund, implement, operate and/or participate in TSM programs to manage travel demand associated with the project	GHG-11: Reduce Vehicles Miles Traveled From New Development  GHG-12: Transportation System Management Plan  GHG-21: Update Community and Corridor Plans



Element	General Plan Policy Text	Supportive CAP Measures
Circulation	CI-41. Consider TSM programs that increase the average occupancy of vehicles and divert automobile commute trips to transit, walking, and bicycling.	GHG-12: Transportation System Management Plan
Circulation	CI-42. Collaborate with other agencies to develop measures to provide for more efficient traffic flow, reduce vehicular travel demand and meet air quality goals.	GHG-16: Traffic Calming Measures  GHG-22: Connecting Key Destinations
Circulation	CI-43. The County shall promote transit-supportive programs in new development, including employer-based trip-reduction programs (employer incentives to use transit or non-motorized modes), "guaranteed ride home" for commute trips, and car-share or bike-share programs.	GHG-11: Reduce Vehicles Miles Traveled From New Development
Circulation	CI-44. Support improvements to at-grade rail crossings within the County. Support efforts to develop and fund the construction of grade-separated rail crossings where appropriate and cost effective to improve safety and reduce congestion.	GHG-16: Traffic Calming Measures
Circulation	CI-46. Support multi-modal stations at appropriate locations to integrate rail transportation with other transportation modes.	GHG-22: Connecting Key Destinations
Circulation	CI-47. Support the development of a statewide high-speed rail service through the Central Valley that serves Sacramento County.	
Circulation	CI-55. Encourage in coordination with the Delta Citizens Municipal Advisory Council the Department of Water Resources, the State Reclamation Board, and the U.S. Army Corps of Engineers to determine how the present strict requirements for levee stripping and burning can be revised to take into account aesthetic and environmental considerations, and including consideration of enhancement and replanting of levees.	
Circulation	CI-56. Encourage the State Reclamation Board and the U.S. Army Corps of Engineers to riprap on levees no higher than the average annual high water level.	
Circulation	CI-64. Investigate in coordination with other County agencies the routing of bike trails and equestrian paths along scenic corridors.	
Circulation	CI-65. Incorporate Low Impact Design (LID) techniques to the greatest extent feasible to improve water quality runoff and erosion control, infiltration, groundwater recharge, visual aesthetics, etc. LID techniques may include but are not limited to: <ul style="list-style-type: none"> <li>▶ Bioretention techniques, such as filtration strips, swales, and tree box filters</li> <li>▶ Permeable hardscape</li> <li>▶ Green roofs</li> <li>▶ Erosion and sediment controls</li> <li>▶ Reduced street and lane widths where appropriate</li> </ul>	Measure GRN-14: Low Impact Development  Measure Flood-1: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events

Element	General Plan Policy Text	Supportive CAP Measures
		<p>Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions</p> <p>Measure Flood-5: Invest in Use of Pervious Pavements and Landscaping in Developed Areas and Restrict the Use of Paved Surfaces</p>
Circulation	CI-66. Use recycled and/or recyclable materials whenever feasible.	
Circulation	CI-67. When feasible, incorporate lighter colored (higher albedo) materials and surfaces, such as lighter-colored pavements, and encourage the creation of tree canopy to reduce the built environment’s absorption of heat to reduce the urban “heat island” effect.	<p>GHG-02: Urban Forestry</p> <p>Measure Temp-04: Encourage the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens</p> <p>Measure Temp-10: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover</p>
Circulation	CI-68. Smart Growth Street planning efforts shall identify specific, implementable measures to create and/or improve community identity.	
Circulation	CI-70. Smart Growth Streets shall incorporate features such as shade trees and plantings, well designed benches and other street furniture, trash receptacles, news racks, outdoor dining experiences, entertainment, public art, pedestrian scaled lighting fixtures, wayfinding signage, bicycle racks and other amenities as appropriate.	<p>GHG-15: Improved Pedestrian Network and Facilities</p> <p>GHG-17: Improved Bicycle Network and Facilities</p>

Element	General Plan Policy Text	Supportive CAP Measures
		GHG-21: Update Community and Corridor Plans
Circulation	CI-71. A Smart Growth Street designation requires a focused and holistic corridor planning analysis that considers highly coordinated and interconnected land uses and transportation infrastructure within the corridor while also considering the impacts to surrounding communities and the natural environment. A Smart Growth Street should recognize that they will remain major corridors for through auto traffic that should be accommodated on the Smart Growth Street and not shifted to neighborhood streets surrounding it.	GHG-21: Update Community and Corridor Plans
Circulation	CI-72. On a Smart Growth Street, the County shall strive to maintain operations and capacity on urban roadways and intersections at LOS E or better, unless maintaining this LOS would, in the County's judgment, be infeasible and conflict with the achievement of other Smart Growth Street objectives. Congestion in excess of LOS E may be acceptable provided that provisions are made to improve overall mobility, reduce overall VMT and/or promote non-automobile transportation.	GHG-16: Traffic Calming Measures
Circulation	CI-73. Where a Smart Growth Street planning analysis indicates that a roadway improved to its general plan designation will be congested in excess of LOS E, mobility impacts fees may be assessed to the properties within the Smart Growth Street area. Such mobility fees shall be fairly apportioned to the properties and shall be sufficient in amount to improve other Smart Growth Street objectives such as improvements that would enhance pedestrian, bicycle, transit, other modes of mobility, and public realm amenities.	GHG-16: Traffic Calming Measures GHG-22: Connecting Key Destinations
Circulation	CI-74. Evaluation of Smart Growth Street corridors and development within those corridors shall utilize multi-modal level of service standards, including pedestrian, bicycle, and transit modes of travel in addition to motor vehicle travel, to support and encourage overall mobility through improvement to all modes of travel.	GHG-22: Connecting Key Destinations
Circulation	CI-75. Smart Growth Street planning efforts shall develop a comprehensive strategy to significantly reduce the total number of driveways along the roadway, including specific measures to ensure implementation, such as requiring cross-access and reciprocal parking agreements between adjacent property owners.	GHG-13: Minimum Parking Standards
Circulation	CI-76. Smart Growth Street planning efforts shall develop a comprehensive strategy to reduce both the total amount of parking and total surface area dedicated to parking facilities. In general, reduced parking requirements and innovative parking solutions such as, shared parking, structured parking, parking maximums rather than minimums, on street parking, performance parking pricing, parking benefit districts and other innovative parking solutions will be strongly encouraged wherever feasible, while large surface parking lots will be strongly discouraged.	GHG-13: Minimum Parking Standards
Circulation	CI-77. Planning processes for Smart Growth Street corridors shall consider road diets, pedestrian and bicycle enhancements, traffic	GHG-15: Improved Pedestrian Network and Facilities

Element	General Plan Policy Text	Supportive CAP Measures
	calming measures and other feasible measures to create a corridor that equitably accommodates all users and modes of travel.	GHG-17: Improved Bicycle Network and Facilities  GHG-22: Connecting Key Destinations
Circulation	CI-78. Establish connectivity standards to implement within Smart Growth Street corridors, to ensure safe, pleasant and direct travel between destinations for all users.	GHG-22: Connecting Key Destinations
Circulation	CI-79. To ensure the safety and comfort of all users, support and encourage street design to accommodate vehicular speeds of up to 40 miles per hour as appropriate.	GHG-16: Traffic Calming Measures
Conservation	CO-4. Support the construction of facilities that maximize the use of available surface water.	
Conservation	CO-5. Support the WFA Increased Surface Water Diversions Element. Collaborate with other local water purveyors to ensure consistency with WFA conjunctive use goals.	Measure Water-6 Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-6. Support surface water supply alternatives for agriculture, including the use of SMUD water entitlements, where feasible.	Measure Water-6 Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-7. Support the Water Forum Agreement Groundwater Management Element. Prior to approving any new development water supply plan shall be approved that demonstrates consistency with an adopted groundwater management plan.	Measure Water-2: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems  Measure Water-6 Collaborate with Federal, State, and Local Agencies and

Element	General Plan Policy Text	Supportive CAP Measures
		Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-8. Applicants proposing developments in areas with significant groundwater recharge characteristics shall evaluate the impact of said development on groundwater recharge and quality. This evaluation should recognize criteria defined in any broader Countywide determination and/or evaluation of groundwater recharge areas.	Measure Water-2: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems
Conservation	CO-9. Developments in areas with significant contamination shall utilize remediated groundwater as part of their water supply when feasible.	Measure Water-2: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems
Conservation	CO-10. Support local watershed initiatives that enhance groundwater recharge.	<p>Measure Water-2: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems</p> <p>Measure Water-6 Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity</p>
Conservation	CO-11. Support local groundwater management efforts that are consistent with the WFA Groundwater Management Element.	Measure Water-6 Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-12. Support groundwater recharge in surface mining reclamation plans where feasible.	Measure Water-6 Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-13. Support the WFA Conservation Element and the California Urban Water Conservation Council Best Management Practices for Water Conservation.	Measure Water-6 Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-14. Support the use of recycled wastewater to meet non-potable water demands where financially feasible.	Measure Water-2: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems
Conservation	CO-15. Support effective agricultural water conservation practices, including the use of recycled wastewater where financially feasible.	Measure Water-2: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems  Measure Water-3: Create Incentives and Programs to Transfer Knowledge and Technologies to Assist Farmers with New Production Methods and Drought Tolerance Species
Conservation	CO-16. Ensure developments are consistent with the County Water Efficient Landscape Ordinance, which shall be updated as needed to conform to state law.	Measure Water-4: Reduce Potable Water Use in

Element	General Plan Policy Text	Supportive CAP Measures
		Outdoor Landscaping
Conservation	CO-18. Support the WFA recommended Lower American River Flow Standard.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-19. Support the WFA Lower American River Habitat Management Element.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-20. Support preservation and restoration of the Cosumnes River riparian ecosystem.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-21 Support protection and restoration of the Sacramento River Delta.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-22. Support water management practices that are responsive to the impacts of Global Climate Change such as groundwater banking and other water storage projects.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-23 Development approval shall be subject to a finding regarding its impact on valuable water-supported ecosystems.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-24. Comply with the Sacramento Areawide National Pollutant Discharge Elimination System Municipal Stormwater Permit (NPDES Municipal Permit) or subsequent permits, issued by the Central Valley Regional Water Quality Control Board (Regional Board) to the County, and the Cities of Sacramento, Elk Grove, Citrus Heights, Folsom,	Measure Flood-1: Evaluate and Improve Capacity of Stormwater Infrastructure for

Element	General Plan Policy Text	Supportive CAP Measures
	<p>Rancho Cordova, and Galt (collectively known as the Sacramento Stormwater Quality Partnership [SSQP]).</p>	<p>High-Intensity Rainfall Events</p> <p>Measure Flood-8: Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and On-Going Flood-Related Climate Change Initiatives</p> <p>Measure Flood-14: Safeguard Freshwater Supply Against Contamination, Degradation, or Loss</p> <p>Measure Water-6 Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity</p>
<p>Conservation</p>	<p>CO-25. Support the preservation, restoration, and creation of riparian corridors, wetlands and buffer zones.</p>	<p>Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions</p> <p>Measure Flood-14: Safeguard Freshwater Supply Against Contamination, Degradation, or Loss</p>
<p>Conservation</p>	<p>CO-26. Protect areas susceptible to erosion, natural water bodies, and natural drainage systems.</p>	<p>Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green</p>



Element	General Plan Policy Text	Supportive CAP Measures
		<p>Infrastructure Solutions</p> <p>Measure Flood-14: Safeguard Freshwater Supply Against Contamination, Degradation, or Loss</p>
Conservation	CO-27. Support surface water quality monitoring programs that identify and address causes of water quality degradation.	Measure Flood-14: Safeguard Freshwater Supply Against Contamination, Degradation, or Loss
Conservation	CO-29. Continue to support the County's participation in regional NPDES Municipal Permit compliance activities through collaborative efforts such as the Sacramento Stormwater Quality Partnership.	Measure Water-6 Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-30. Require development projects to comply with the County's stormwater development/design standards, including hydromodification management and low impact development standards, established pursuant to the NPDES Municipal Permit. Low impact development design and associated landscaping may serve multiple purposes including reduction of water demand, retention of runoff, reduced flooding and enhanced groundwater recharge. (Modified 2016)	<p>Measure Flood-1: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events</p> <p>Measure Water-4: Reduce Potable Water Use in Outdoor Landscaping</p>
Conservation	CO-31. Require property owners to maintain all required stormwater measures to ensure proper performance for the life of the project.	Measure Flood-1: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events
Conservation	CO-32. Support programs and activities conducted by watershed groups and citizen volunteers that help to ensure compliance with the	Measure Water-5: Expand Upon

Element	General Plan Policy Text	Supportive CAP Measures
	NPDES Municipal Permit by increasing public awareness and encouraging stewardship of water resources.	Existing Water Conservation Education Outreach Programs for Residents and Businesses
Conservation	CO-35. New development that will generate additional water demand shall not be approved and building permits shall not be issued if sufficient water supply is not available, as demonstrated by Water Supply Assessment and Written Verification processes.	Measure Water-1: Evaluate Vulnerabilities of Water Supply Systems and Networks and Develop Strategies to Improve Resilience
Conservation	CO-38. Sewer interceptor and trunk alignments shall be routed to avoid areas planned for aggregate resource mining to the extent practical. Where such alignments are impractical, they shall be designed to minimize aggregate resources which would be precluded from mining, and make reasonable attempt to preserve the future use of mined areas for flood control or recharge purposes.	Measure Water-2: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems  Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-45. To the maximum extent possible, all base material utilized in County and private road construction shall be composed of recycled asphalt concrete and roadway base material.	
Conservation	CO-46. Reduce solid waste beyond the 50% minimum state mandate through a variety of recycling programs.	
Conservation	CO-48. All County departments and agencies shall enforce the Environmental Purchasing Policy, approved by the Board of Supervisors in January 2003, which facilitate purchase of recycled, recyclable or reusable products and materials where feasible.	
Conservation	CO-49. Outside contractors bidding to provide products or services to the County, including printing services, must demonstrate that they will comply with County recycled materials policies to the greatest extent feasible.	
Conservation	CO-50. Actively promote a comprehensive, consistent and effective recycled materials procurement effort among other governmental agencies and local businesses.	
Conservation	CO-52. Recreational uses shall not be constructed on prime, statewide importance, unique or local farmland outside of the Urban Services Boundary where the use would impede agricultural practices.	

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-55. Support Resource Conservation Districts to promote soil and water conservation practices.	Measure Water-5: Expand Upon Existing Water Conservation Education Outreach Programs for Residents and Businesses
Conservation	CO-58. Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-61. Mitigation should be consistent with Sacramento County-adopted habitat conservation plans.	
Conservation	CO-62. Permanently protect land required as mitigation.	
Conservation	CO-63. Vernal pools, wetlands, and streams within identified preserves shall not be drained, excavated, or filled for the purpose of converting the land to another use. If fill or modification is required for Drainage Master Plans, stormwater quality or levee maintenance, creation or restoration of an equal amount must occur within the boundaries of the preserve to achieve no net loss consistent with policy CO-58.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-64. Consistent with overall land use policies, the County shall support and facilitate the creation and biological enhancement of large natural preserves or wildlife refuges by other government entities or by private individuals or organizations.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-66. Mitigation sites shall have a monitoring and management program including an adaptive management component including an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.	
Conservation	CO-67. Preserves and conservation areas should have an established funding mechanism, and where needed, an acquisition strategy for its operation and management in perpetuity. This includes existing preserves such as the American River Parkway, Dry Creek Parkway, Cosumnes River Preserve and other plans in progress for riparian areas like Laguna Creek.	
Conservation	CO-69. Avoid, to the extent possible, the placement of new major infrastructure through preserves unless located along disturbed areas, such as existing roadways.	
Conservation	CO-70. Community Plans, Specific Plans, Master Plans and development projects shall:	Measure Flood-3: Identify New

Element	General Plan Policy Text	Supportive CAP Measures
	<p>include the location, extent, proximity and diversity of existing natural habitats and special status species in order to determine potential impacts, necessary mitigation and opportunities for preservation and restoration.</p> <p>be reviewed for the potential to identify nondevelopment areas and establish preserves, mitigation banks and restore natural habitats, including those for special status species, considering effects on vernal pools, groundwater, flooding, and proposed fill or removal of wetland habitat.</p> <p>be reviewed for applicability of protection zones identified in this Element, including the Floodplain Protection Zone, Stream Corridor Ordinance, Cosumnes River Protection Combining Zone and the Laguna Creek Combining Zone.</p>	<p>Locations for Flood Control, Prioritizing Green Infrastructure Solutions</p>
Conservation	<p>CO-71. Development design shall help protect natural resources by:</p> <ul style="list-style-type: none"> <li>▶ Minimizing total built development in the floodplain, while designing areas of less frequent use that can support inundation to be permitted in the floodplain,</li> <li>▶ Ensuring development adjacent to stream corridors and vernal pools provide, where physically reasonable, a public street paralleling at least one side of the corridor with vertical curbs, gutters, foot path, street lighting, and post and cable barriers to prevent vehicular entry.</li> <li>▶ Projects adjacent to rivers and streams shall integrate amenities, such as trail connectivity, that will serve as benefits to the community and ecological function.</li> <li>▶ Siting of wetlands near residential and commercial areas should consider appropriate measures to minimize potential for mosquito habitation.</li> <li>▶ Development adjacent to steam corridors and vernal pools shall be designed in such a manner as to prevent unauthorized vehicular entry into protected areas.</li> </ul>	<p>Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions</p>
Conservation	<p>CO-72. If land within river and stream watersheds in existing agricultural areas is developed for non-agricultural purposes, the County should actively pursue easement dedication for recreation trails within such development as a condition of approval.</p>	
Conservation	<p>CO-73. Secure easement or fee title to open space lands within stream corridors as a condition of development approval.</p>	
Conservation	<p>CO-74. Evaluate feasible on-site alternatives early on in the planning process and prior to the environmental review process that reduce impacts on wetland and riparian habitat and provide effective on-site preservation in terms of minimum management requirements, effective size, and evaluation criteria.</p>	<p>Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions</p>
Conservation	<p>CO-76. Habitat conservation plans shall be adopted by the County to provide a comprehensive strategy to protect and aid in the recovery of special status species.</p>	

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-82. Ensure that mosquito control measures have the least effect on non-target species.	Measure Flood-10: Expand Vaccination and Educational Programs to Address Vector and Waterborne Diseases
Conservation	CO-90. Increase riparian woodland, valley oak riparian woodland and riparian scrub habitat along select waterways within Sacramento County.	
Conservation	CO-93. Discourage fill in the 100-year floodplain (Please also refer to CO-117).	
Conservation	CO-94. Development within the 100-year floodplain and designated floodway of Sacramento streams, sloughs, creeks or rivers shall be: <ul style="list-style-type: none"> <li>• Consistent with policies to protect wetlands and riparian areas; and</li> <li>• Limited to land uses that can support seasonal inundation.</li> </ul>	
Conservation	CO-95. Development within the 100-year floodplain should occur in concert with the development of the Floodplain Protection Zone (please refer to Land Uses Adjacent to Rivers and Streams for information on this Zone).	
Conservation	CO-96. Reduce dependence on traditional levee protection methods where those methods conflict with habitat preservation efforts and where alternate methods exist which are compatible with preservation efforts and offer an acceptable level of bank stabilization.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-97. Work with appropriate regulatory agencies to reduce bank and levee erosion by minimizing erosive wake activity generated by recreational and commercial boating.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-98. Coordinate with federal, state and local agencies overseeing levee and bank stabilization to investigate and, whenever possible, utilize biotechnical or nonstructural alternatives to other conventional stabilization methods.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-99. Encourage habitat restoration and recreational opportunities as an integral part of bank and levee stabilization efforts.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-100. Encourage construction of structures for flood control and stormwater quality purposes using currently approved scientific methods to prevent erosion and stabilize the banks.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-101. Stabilize the banks of rivers and streams in a manner that increases flood protection and increases riparian habitat functions.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-102. Promote and encourage habitat restoration efforts on and adjacent to our river floodways.	Measure GRN-12: River-Friendly Landscaping
Conservation	CO-105. Channel modification projects shall be considered for approval by the Board of Supervisors only after conducting a noticed public hearing examining the full range of alternatives, relative costs and benefits, and environmental, economic, and social benefits.	Measure Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-105a. Encourage flood management designs that respect the natural topography and vegetation of waterways while retaining flow and functional integrity. (Added 2016)	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-106. Realigned or modified channels should retain topographic diversity including maintaining meandering characteristics, varied berm width, naturalized side slope, and varied channel bottom elevation.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Measure Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-107. Maintain and protect natural function of channels in developed, newly developing, and rural areas.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions  Measure Flood-11: Identify Concrete

Element	General Plan Policy Text	Supportive CAP Measures
		Channel Restoration Areas
Conservation	CO-108. Channel lowering should occur after consideration of alternatives and only when it is necessary to accommodate the gravity drainage of storm runoff and/or accommodate floodflows under existing bridge structures.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions  Measure Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-109. Channel modifications should not prevent minimum water flows necessary to protect and enhance fish habitats, native riparian vegetation, water quality, or ground water recharge.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions  Measure Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-110. Improvements in watercourses will be designed for low maintenance. Appropriate Manning's "n" values will be used in design of the watercourses to reflect future vegetative growth (including mitigation plantings) associated with the low maintenance concept.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-111. Channel modifications shall retain wetland and riparian vegetation whenever possible or otherwise recreate the natural channel consistent with the historical ecological integrity of the stream or river.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions  Measure Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-112. The use of concrete and impervious materials is discouraged where it is inconsistent with the existing adjacent watercourse and overall ecological function of the stream.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green

Element	General Plan Policy Text	Supportive CAP Measures
		Infrastructure Solutions  Measure Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-113. Encourage revegetation of native plant species appropriate to natural substrate conditions and avoid introduction of nonindigenous species.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-114. Protect stream corridors to enhance water quality, provide public amenities, maintain flood control objectives, preserve and enhance habitat, and offer recreational and educational opportunities.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-115. Provide setbacks along stream corridors and stream channels to protect riparian habitat functions (Figure 1). <ul style="list-style-type: none"> <li>▶ A functional setback of at least 100 feet and measured from the outside edge of the stream bank should be retained on each side of a stream corridor that prohibits development or agricultural activity. This buffer is necessary to protect riparian functions by allowing for the filtering of sediment, pesticides, phosphorus and nitrogen, organic matter and other contaminants that are known to degrade water quality. This buffer also provides for the protection of vegetation along the stream bank which provides bank stability, erosion control and flood attenuation.</li> <li>▶ A transitional setback of at least 50 feet in width beyond the functional buffer should be retained along all stream corridors. This buffer is necessary to protect hydrogeomorphic functions that regulate water temperature, regulate microclimate, maintain channel complexity and retain hydrologic flow regimes. This buffer also provides corridors to facilitate the movement of wildlife.</li> <li>▶ An extended setback of at least 50 feet in width beyond the transitional setback should be retained along all stream corridors. This setback will allow for recreational uses such as bike, pedestrian and/or equestrian trails and will allow for the placement of infrastructure such as water and sewer lines.</li> <li>▶ Stormwater discharge ponds or other features used for improving stormwater quality may be located within the extended or transitional setback area. However, in order to protect stream habitat and floodplain value, the width of the setback shall not be</li> </ul>	



Element	General Plan Policy Text	Supportive CAP Measures
	<p>based upon the width of the pollutant discharge pond. The ponds shall be landscaped and maintained with vegetation native to the surrounding area. Detention ponds or other features implementing pollutant discharge requirements, other than approved regional stormwater quality practices that are designed and operated to complement the corridor functionally and aesthetically, are prohibited.</p> <ul style="list-style-type: none"> <li>▶ <u>Setback averaging within individual development projects or as otherwise specified in a County-adopted master plan</u> will be permitted except when riparian woodland will be lost. The minimum width of setbacks cannot fall below 50 feet.</li> </ul> <p>Master drainage plans may provide for other standards that meet the intent of this policy.</p>	
Conservation	CO-117. Public roads, parking, and associated fill slopes shall be located outside of the stream corridor, except at stream crossings and for purposes of extending or setting back levees. The construction of public roads and parking should utilize structural materials to facilitate permeability. Crossings shall be minimized and be aesthetically compatible with naturalistic values of the stream channel.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-118. Development adjacent to waterways should protect the water conveyance of the system, while preserving and enhancing the riparian habitat and its function.	
Conservation	CO-122. River and stream maintenance should allow natural vegetation in and along the channel to assist in removal of nutrients, pollutants, and sediment and to increase bank stabilization, while minimizing impacts on conveyance.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-125. Restore concrete sections of rivers and streams to natural or naturalized channels, where feasible for increased flood or conveyance capacity and groundwater recharge.	<p>Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions</p> <p>Measure Flood-11: Identify Concrete Channel Restoration Areas</p>
Conservation	<p>CO-130. Protect, enhance and restore riparian, in-channel and shaded riverine aquatic habitat for:</p> <ul style="list-style-type: none"> <li>▶ spawning and rearing of fish species, including native and recreational nonnative, non-invasive species, where they currently spawn;</li> <li>▶ potential areas where natural spawning could be sustainable; and</li> </ul>	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions

Element	General Plan Policy Text	Supportive CAP Measures
	<ul style="list-style-type: none"> <li>▶ supporting other aquatic species</li> </ul>	<p>Measure Flood-9: Research the Tolerance of Current Crop Mixes to Withstand Increased Flooding and Support Aquaculture and Fish Habitat</p>
Conservation	CO-137. Mitigate for the loss of native trees for road expansion and development consistent with General Plan policies and/or the County Tree Preservation Ordinance.	GHG-02: Urban Forestry
Conservation	CO-139. Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.	GHG-02: Urban Forestry
Conservation	<p>CO-140. For projects involving native oak woodlands, oak savannah or mixed riparian areas, ensure mitigation through either of the following methods:</p> <ul style="list-style-type: none"> <li>▶ An adopted habitat conservation plan. • Ensure no net loss of canopy area through a combination of the following: (1) preserving the main, central portions of consolidated and isolated groves constituting the existing canopy <u>and</u> (2) provide an area on-site to mitigate any canopy lost. Native oak mitigation area must be a contiguous area on-site which is equal to the size of canopy area lost and shall be adjacent to existing oak canopy to ensure opportunities for regeneration.</li> <li>▶ Removal of native oaks shall be compensated with native oak species with a minimum of a one to one dbh replacement.</li> <li>▶ A provision for a comparable on-site area for the propagation of oak trees may substitute for replacement tree planting requirements at the discretion of the County Tree Coordinator when removal of a mature oak tree is necessary.</li> <li>▶ If the project site is not capable of supporting all the required replacement trees, a sum equivalent to the replacement cost of the number of trees that cannot be accommodated may be paid to the County's Tree Preservation Fund or another appropriate tree preservation fund.</li> <li>▶ If on-site mitigation is not possible given site limitation, off-site mitigation may be considered. Such a mitigation area must meet all of the following criteria to preserve, enhance, and maintain a natural woodland habitat in perpetuity, preferably by transfer of title to an appropriate public entity. Protected woodland habitat could be used as a suitable site for replacement tree plantings required by ordinances or other mitigations.</li> </ul>	<p>GHG-02: Urban Forestry</p> <p>Measure Fire-03: Update Tree Planning Guidelines to Select Wildfire Resistant Species</p>

Element	General Plan Policy Text	Supportive CAP Measures
	<ul style="list-style-type: none"> <li>▪ Equal or greater in area to the total area that is included within a radius of 30 feet of the dripline of all trees to be removed;</li> <li>▪ Adjacent to protected stream corridor or other preserved natural areas;</li> <li>▪ Supports a significant number of native broadleaf trees; and</li> <li>▪ Offers good potential for continued regeneration of an integrated woodland community.</li> </ul>	
Conservation	CO-141. In 15 years the native oak canopy within on-site mitigation areas shall be 50 percent canopy coverage for valley oak and 30 percent canopy coverage for blue oak and other native oaks.	Fire-03: Update Tree Planning Guidelines to Select Appropriate Species to Help Improve Air Quality
Conservation	CO-142. Provide funds for education, programs, and materials emphasizing the value and importance of trees.	GHG-02: Urban Forestry  Measure Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Conservation	CO-143. Work cooperatively with local utilities to assure that new trees are planted in locations that will maximize energy conservation and air quality benefits.	GHG-02: Urban Forestry  Measure Fire-04: Update Tree Planning Guidelines to Select Wildfire Resistant Species  Measure Temp-10: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Conservation	CO-144. Support a regional approach consistent with the provisions of Greenprint for the protection, replacement, and mitigation of trees.	GHG-02: Urban Forestry  Measure Fire-03: Update Tree Planning Guidelines to Select Wildfire Resistant Species

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-145. Removal of non-native tree canopy for development shall be mitigated by creation of new tree canopy equivalent to the acreage of non-native tree canopy removed. New tree canopy acreage shall be calculated using the 15-year shade cover values for tree species.	GHG-02: Urban Forestry  Measure Fire-4: Update Tree Planning Guidelines to Select Wildfire Resistant Species
Conservation	CO-146. If new tree canopy cannot be created onsite to mitigate for the non-native tree canopy removed for new development, project proponents (including public agencies) shall contribute to the Greenprint funding in an amount proportional to the tree canopy of the specific project.	GHG-02: Urban Forestry  Measure Fire-4: Update Tree Planning Guidelines to Select Wildfire Resistant Species
Conservation	CO-147. Increase the number of trees planted within residential lots and within new and existing parking lots.	GHG-02: Urban Forestry
Conservation	CO-148. Support private foundations with local funds for their tree planting efforts.	GHG-02: Urban Forestry
Conservation	CO-149. Trees planted within new or existing parking lots should utilize pervious cement and structured soils in a radius from the base of the tree necessary to maximize water infiltration sufficient to sustain the tree at full growth.	GHG-02: Urban Forestry  Measure Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Delta Protection	DP-3. Proponents of new non- agriculturally oriented residential, recreational, commercial, habitat, restoration or industrial development shall provide appropriate buffer areas to prevent conflicts between any proposed use and existing adjacent agricultural parcels. Buffers shall adequately protect integrity of land for existing and future agricultural uses and shall not include uses that conflict with agricultural operations on adjacent agricultural lands. Appropriate buffer setbacks shall be determined in consultation with local Agricultural commissioners, and shall be based on any applicable general plan policies and criteria included in the Right-to-Farm Ordinance.	
Delta Protection	DP-4. Direct new non-agriculturally oriented non-farmworker residential development within the existing unincorporated towns (Walnut Grove, Courtland, Hood, Locke, and Ryde).	
Delta Protection	DP-7. New structures shall be set back from levees and areas that may be needed for future levee expansion consistent with local reclamation district regulations, and, upon adoption, with the	

Element	General Plan Policy Text	Supportive CAP Measures
	requirements to be identified in the California Department of Water Resources Central Valley Flood control Plan.	
Delta Protection	DP-11. Consider developing programs to permit clustering of residential units that allow property owners to engage in limited property development in order to ensure the efficient use and conservation of agricultural lands, support open space values, and protect sensitive environmental areas in the Primary Zone. Clustered development occurs when contiguous or non-contiguous parcels are developed to cluster lots for residential use. The purpose of clustered development is to provide a mechanism to preserve agricultural land and open space, to locate housing in areas that can readily be served by public services and utilities, and provide the agricultural community an alternative to transfer of development rights. Clustered development programs shall ensure that the number of clustered lots created does not exceed the allowable density requirement for the zoning of the sum of the parcels. Clustered development may only be used one time. Neither the clustered lots nor the remainder lots may be further subdivided. Residential development shall be consistent with Sacramento County General Plan policies and zoning regulations and standards.	
Delta Protection	DP-12. Consider developing transfer of development rights (TDR) programs that allow land owners to transfer the development right from one parcel of land to another. The purpose of these TDR programs would be to provide the efficient use and conservation of agricultural lands, to support open space values, and to protect sensitive environmental areas within the Primary Zone. This purpose would be achieved by relocating development rights within the Primary Zone to more suitable areas such as adjacent to or within existing urban areas within or outside of the Primary Zone, or to provide expanded opportunities for affordable farm worker housing. TDR programs shall ensure that the transferred development density does not exceed the development density identified for the zoning for the sending parcel, and that any farm worker housing is restricted and regulated for that purpose. The land upon which the development rights are transferred from would be restricted with a permanent conservation easement. Receiving areas must have the infrastructure capacity, public services and utilities to absorb the new development.	
Delta Protection	DP-13. Support the implementation of appropriately located agricultural labor camps and housing that serve agricultural operations, which are constructed and sited consistent with Sections 17021.5 and 17021.6 of the California Health and Safety Code and consistent with the requirements of local building codes.	
Delta Protection	DP-14. The conversion of an agricultural parcel, parcels, and/or an agricultural island for water impoundment, including reservoirs, water conveyance or wetland development may not result in the seepage of water onto or under the adjacent parcel, parcels, and/or island. These conversions shall mitigate the risks and adverse effects associated with seepage, levee stability, subsidence, and levee erosion, and shall be consistent with the goals of this element.	Measure Flood-14: Safeguard Freshwater Supply Against Contamination, Degradation, or Loss

Element	General Plan Policy Text	Supportive CAP Measures
Delta Protection	DP-15. Support regional efforts to address issues related to urban development, habitat conservation and agricultural protection through participating in the South Sacramento Habitat Conservation Plan.	
Delta Protection	DP-19. Support agricultural programs that maintain economic viability and increase agricultural income in accordance with market demands, including but not limited to wildlife-friendly farming, conservation tillage and non-tillage.	GHG-03: Urban-Rural Connections
Delta Protection	DP-20. Encourage implementation of the necessary plans and ordinances to: maximize agricultural parcel size; reduce subdivision of agricultural lands; protect agricultural and related activities; protect agricultural land from conversion to non-agriculturally oriented uses. An optimum package of regulatory and incentive programs would include: (1) an urban limit line; (2) minimum parcel size consistent with local agricultural practices and needs; (3) strict regulations regarding subdivision of agricultural lands intended to ensure that subdivided lands will continue to contain agriculturally-oriented land uses; (4) adequate buffers between agricultural and nonagricultural land uses particularly residential development outside but adjacent to the Primary Zone; (5) an agriculture element of the general plan; (6) a right-to-farm ordinance; and (7) a conservation easement program.	
Delta Protection	DP-21. Encourage acquisition of agricultural conservation easements from willing sellers as mitigation for projects within each county. Promote use of environmental mitigation in agricultural areas only when it is consistent and compatible with ongoing agricultural operations and when developed in appropriate locations designated on a countywide or Deltawide habitat management plan.	
Delta Protection	DP-23. Encourage the protection of agricultural areas, recreational resources and sensitive biological habitats, and the reclamation of those areas from the destruction caused by inundation.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions  Measure Flood-12: Replant Bare or Disturbed Areas
Delta Protection	DP-25. Preserve and protect the natural resources of the Delta. Promote protection of remnants of riparian and aquatic habitat. Encourage compatibility between agricultural practices, recreational uses and wildlife habitat. Partner with Sacramento Regional County Sanitation District and other partners to promote and encourage the use of recycled water for agricultural, habitat and water conservation purposes where feasible.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions  Measure Water-2: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse,

Element	General Plan Policy Text	Supportive CAP Measures
		<p>and Recycled Water Systems</p> <p>Measure Water-3: Create Incentives and Programs to Transfer Knowledge and Technologies to Assist Farmers with New Production Methods and Drought Tolerance Species</p> <p>Measure Water-5: Expand Upon Existing Water Conservation Education Outreach Programs for Residents and Businesses</p> <p>Measure Water-4: Reduce Potable Water Use in Outdoor Landscaping</p>
Delta Protection	DP-31. Incorporate, to the maximum extent feasible, suitable and appropriate wildlife protection, restoration and enhancement on publicly-owned land as part of a Delta-wide plan for habitat management.	
Delta Protection	DP-33. Protect and restore ecosystems and adaptively manage them to minimize impacts from climate change and other threats and support their ability to adapt in the face of stress.	
Delta Protection	DP-34. Support the design, construction, and management of any flooding program to provide seasonal wildlife and aquatic habitat on agricultural lands, duck club lands and additional seasonal and tidal wetlands, shall incorporate "best management practices" to minimize vectors including mosquito breeding opportunities, and shall be coordinated with the local vector control districts., (Each of the four vector control districts in the Delta provides specific wetland/mosquito management criteria to landowners within their district.)	Measure Flood-10: Expand Vaccination and Educational Programs to Address Vector and Waterborne Diseases
Delta Protection	DP-38. Encourage new regional recreational opportunities, such as Delta-wide trails, which take into consideration environmental, agricultural, infrastructure, and law enforcement needs, and private property boundaries. Also, encourage opportunities for water, hiking, and biking trails.	
Delta Protection	DP-52. Support efforts to address levee encroachments that are detrimental to levee maintenance.	

Element	General Plan Policy Text	Supportive CAP Measures
Delta Protection	DP-53. Support funding assistance for existing unincorporated towns within the Delta to improve levees up to a 200-year flood protection level.	
Delta Protection	DP-54. Support stockpiling rock in the Delta for levee emergency response	
Delta Protection	DP-55. Support a multi-year funding commitment to maintain and restore both project and non-project levees in the Delta.	
Delta Protection	DP-56. Encourage the beneficial reuse of dredged material, as appropriate, for levee maintenance and rehabilitation, and the maintenance of instream flows. Support and advocate for the Delta Long-Term Management Strategy (LTMS).	
Delta Protection	DP-60. New houses built in the Delta agricultural areas but outside of the Delta’s unincorporated towns shall continue to be served by independent potable water and wastewater treatment facilities and/or septic systems. Agricultural uses that require wastewater treatment shall provide adequate infrastructure improvements or pay to expand existing facilities, and not overburden the existing limited community resources. The appropriate governing body shall ensure that new or expanded construction of agriculturally-oriented wastewater disposal systems meet the appropriate standards/conditions and are not residentially growth inducing. Independent treatment facilities should be monitored to ensure no cumulative adverse impact to groundwater supplies.	
Delta Protection	DP-62. Encourage recycling programs for metals, glass, paper, cardboard, and organic materials in order to minimize waste generation. Recycling facilities for these materials should be suitably located to serve Delta residents, visitors, and businesses. High groundwater tables and subsiding soil make the Delta an inappropriate location for solid waste disposal.	
Delta Protection	DP-65. Encourage the provision of infrastructure for new water, recycled water and recreational and scientific research facilities.	Measure Water-2: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems
Economic Development	ED-2. Concentrate commercial uses in areas best able to support them, including neighborhood, community and regional centers, transit stations, and commercial corridors.	
Economic Development	ED-3. Ensure a controlled, balanced and sustainable development pattern on a sub-regional and regional level through comprehensive planning incorporating multiple disciplines.	
Economic Development	ED-4. Identify opportunity sites within the unincorporated area that are appropriate for regional retail opportunities and other synergistic uses.	
Economic Development	ED-5. Ensure that adequate infrastructure is planned and developed to support regional retail opportunity sites.	



Element	General Plan Policy Text	Supportive CAP Measures
Economic Development	ED-7. Promote retail facilities of appropriate size and scale to serve the shopping needs of the local population and the populace at large when planning new residential neighborhoods or major residential developments.	
Economic Development	ED-8. Create plans for new growth areas with a mix of land uses, including a balance of residential and employment (jobs-housing balance) as well as providing for neighborhood-oriented services and diverse commercial amenities to serve a broader portion of the population.	
Economic Development	ED-9. Plan new growth areas to emphasize full capture of retail and service demands within the planning area and within a broader area when appropriate.	
Economic Development	ED-10. Revitalize distressed and aging commercial corridors by developing mixed-use centers and urban villages along corridors to improve community quality of life, optimize economic development, balance land uses, and foster the opportunity to accommodate a portion of the anticipated future growth.	
Economic Development	ED-11. Foster orderly and efficient commercial and residential growth within identified commercial corridors, ensuring that adequate infrastructure and public services are available to support existing and new commercial activity on the established commercial corridors.	
Economic Development	ED-13. Support location of County employment centers and facilities in areas in need of revitalization, including commercial corridors.	
Economic Development	ED-14. Support and promote a healthy and competitive agricultural industry whose products are recognized in local, national and international markets.	GHG-03: Urban-Rural Connections
Economic Development	ED-15. Support ongoing efforts by the agriculture community to develop high value products and new markets for goods that can support higher paying and more steady employment opportunities in the unincorporated area.	
Economic Development	ED-17. Support agricultural agencies, marketing cooperatives and other agricultural organizations in their efforts to research global, domestic and new markets for Sacramento County farm produce.	GHG-03: Urban-Rural Connections
Economic Development	ED-18. Encourage local and regional processing facilities that create high quality jobs.	GHG-03: Urban-Rural Connections
Economic Development	ED-20. Emphasize the efficient reuse of existing facilities and the high quality development of underutilized properties within the former base and the adjacent areas.	
Economic Development	ED-21. Promote an orderly, balanced, and integrated land use pattern that optimizes existing McClellan Park assets, supports sustainable land utilization, and enhances local and regional character, identity, and quality of development.	
Economic Development	ED-22. Support the redevelopment and revitalization efforts in the surrounding communities and create interrelationships with portals into the community along Watt Avenue and Winters Street.	

Element	General Plan Policy Text	Supportive CAP Measures
Economic Development	ED-23. Encourage economic development activities that support and complement local and regional economic development activities including the creation of high quality jobs.	
Economic Development	ED-25. Reuse of Mather Airfield will emphasize the efficient reuse of existing facilities and the high quality development of underutilized properties within the base focusing on the transition of vacant and underutilized properties into airport, commercial, and recreation uses.	
Economic Development	ED-27. Provide roadway connections through Mather Airfield to improve regional mobility and facilitate the movement of goods and services.	GHG-22: Connecting Key Destinations
Economic Development	ED-31. Support business and private sector efforts to create regional, state, national, and international markets for the Sacramento County's products and services.	GHG-03: Urban-Rural Connections
Economic Development	ED-33. Partner to create and maintain an adaptive/skilled workforce to meet the needs of existing and future businesses.	
Economic Development	ED-60. Encourage public events that allow people to gather for the purposes of entertainment and education, such as art and music festivals, farmers markets, and other performance events.	GHG-03: Urban-Rural Connections
Energy	EN-1. Develop standards which would reduce the energy required to maintain interior spaces in the comfort zone, including such standards as tree planting and proper orientation of dwellings.	GHG-02: Urban Forestry  Measure Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Energy	EN-2. Inform the public of the need and of ways to conserve energy in the home.	
Energy	EN-3. Encourage the conservation and rehabilitation of existing housing and the revitalization of older, more intensively developed neighborhoods in the urban area.	GHG-06: Energy Efficiency and Electrification of Existing Residential Buildings
Energy	EN-4. Encourage consumers to purchase or rent energy efficient houses and apartments.	
Energy	EN-5. Reduce travel distances and reliance on the automobile and facilitate increased use of public transit through appropriate land use plans and regulations.	GHG-14: Improved Transit Access  GHG-22: Connecting Key Destinations

Element	General Plan Policy Text	Supportive CAP Measures
Energy	EN-6. Actively support the efforts of the Regional Transit District to expand and upgrade service and attract an increasing percentage of travel.	GHG-14: Improved Transit Access
Energy	EN-7. Expand existing programs and develop new programs which promote and encourage vanpooling and carpooling.	
Energy	EN-8. Promote and encourage increased percentages of more efficient cars.	GHG-10: Electric Vehicle Infrastructure Program  GHG-18: Improve Fuel Efficiency Standards
Energy	EN-9. Inform the public of the need to reduce auto travel and encourage the use of public transit and other energy efficient modes of travel.	
Energy	EN-10. Continue implementation of the Bikeways Master Plan, and develop standards for neighborhood bikeways and pedestrian-ways, incorporating them into Neighborhood Planning Standards.	GHG-15: Improved Pedestrian Network and Facilities  GHG-17: Improved Bicycle Network and Facilities
Energy	EN-11. Promote the location within the Sacramento area of those industries which are labor intensive, utilize solar energy systems, and are consistent with other policies in terms of environmental protection.	
Energy	EN-12. Encourage industry located or locating in the Sacramento area to participate in cogeneration of power.	
Energy	EN-13. Aggressively pursue programs to retrofit with insulation those existing uninsulated or underinsulated commercial, institutional, and industrial buildings where economically justified.	Measure Temp-5: Encourage the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Energy	EN-14. Develop or revise design standards relating to building solar orientation, landscaping, impervious surfaces, and parking space requirements to conserve energy.	GHG-04: Energy Efficiency and Electrification of Existing Nonresidential Buildings
Energy	EN-15. Inform the agricultural industry of ways to conserve energy through the Cooperative Agricultural Extension office.	

Element	General Plan Policy Text	Supportive CAP Measures
Energy	EN-16. Promote the use of passive and active solar systems in new and existing residential, commercial, and institutional buildings as well as the installation of solar swimming pool heaters and solar water and space heating systems.	Measure Temp-5: Encourage the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Energy	EN-17. Support the development and improvement of solar space cooling systems.	Measure Temp-5: Encourage the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Energy	EN-18. Develop and implement standards for the protection of the solar rights of property owners.	Measure Temp-5: Encourage the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Energy	EN-19. Support the development and use of renewable sources of energy, including but not limited to biomass, solar, wind, and geothermal.	
Energy	EN-20. Advocate that the state legislate a tax incentive or other means of encouraging utilities to improve the efficiency of existing hydroelectric generators.	
Energy	EN-21. Investigate the effectiveness of reducing summer daily peak load by shifting working hours, particularly for office workers and, if effective, promote its implementation.	
Energy	EN-22. Inform the public of ways to reduce electrical consumption at times of peak load and of the resulting benefits.	
Energy	EN-23. Investigate in a joint effort with SMUD the feasibility and effectiveness of peak day pricing by rate structure and/or surcharge.	
Energy	EN-24. Support electronic load management as a method of reducing peak electrical load.	
Energy	EN-25. Institute total energy management (TEM) for county buildings.	Measure BE-1: Green Building Policy

Element	General Plan Policy Text	Supportive CAP Measures
Energy	EN-26. Use life cycle costing and, where applicable, consider energy efficiency ratios for county equipment purchases, including vehicles, and require that vendors on county property do likewise.	Measure F-1: Fleet Conversion Program  Measure MS-1: Buy Clean Policy
Energy	EN-27. Recycle office wastepaper.	
Energy	EN-28. Commit itself to the principles of source reduction and resource recovery of municipal solid waste.	
Energy	EN-29. Establish within a single office of county government responsibility for the following: <ul style="list-style-type: none"> <li>▶ Coordinating energy conservation efforts in county government;</li> <li>▶ Publicizing the energy conservation programs of the city, county, SMUD, PG&amp;E, and the state</li> <li>▶ Advocating, in cooperation with the county's legislative advocate, other government agencies to adopt programs which support the county's energy goal and objectives;</li> <li>▶ Preparing 'an "energy account" annually of the previous year's demand and use of energy in Sacramento County; and</li> <li>▶ Coordinating and encouraging appropriate federal, state, county, and other local governmental agencies to conserve energy in water treatment and wastewater treatment and reclamation.</li> </ul>	GHG-25: Electric Irrigation Pumps
Energy	EN-30. Develop and implement standardized procedures for evaluating the initial and long-range energy impacts of proposed developments.	
Energy	EN-31. Design new county buildings to incorporate passive and active solar energy systems and total energy management.	Measure BE-1: Green Building Policy  Measure BE-2: Solar for County Buildings  Measure Temp-5: Encourage the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Energy	EN-32. Develop and implement a countywide water resources management plan which is based on conservation of energy and water resources.	
Energy	EN-33. Promote district heating for commercial, institutional, and high-density residential buildings in downtown Sacramento.	

Element	General Plan Policy Text	Supportive CAP Measures
Environmental Justice	EJ-1. Improvement and program support for each EJ Community shall address the Community's unique or compounded needs.	
Environmental Justice	Policy EJ-2. Maximize public engagement opportunities and continually adapt to new forms of communication	
Hazardous Materials	HM-12. Continue the effort through the Sacramento Metropolitan Air Quality Management District (AQMD) to inventory and reduce toxic air contaminants as emission standards are developed.	
Human Services	HS-5. New human services facilities shall be appropriately sited adjacent to existing or planned transportation corridors to enhance mobility options.	GHG-22: Connecting Key Destinations
Human Services	HS-6. Adequate infrastructure (i.e., complete streets including bicycle lanes and sidewalks) and appropriate design elements are incorporated during the planning and review of new human services facilities to improve connectivity and access.	Measure NWL-05: Smart Growth
Human Services	HS-9. Forward appropriate projects to the Human Service Coordinating Council (HSCC) as part of Planning and Environmental Review's initial distribution process for applications. Appropriate projects include large master plans, Specific Plans, Community Plans, and Corridor Plans but may also include other appropriate infill or corridor projects. Representatives of the HSCC may then forward comments or attend meetings and hearings such as the Project Review Committee (PRC) to comment on the needs for future human services and facilities.	GHG-21: Update Community and Corridor Plans
Land Use	LU-1. The County shall not provide urban services beyond the Urban Policy Area, except when the County determines the need for health and safety purposes and the extension provisions as provided in Policy LU-1.1.	
Land Use	LU-1.1 Limited public water service and facilities can be extended beyond the Urban Policy Area/Urban Services Boundary to serve uses allowed by the Cordova Hills Special Planning Area (SPA) for the 251 acre area located in proximity to Kiefer Landfill, as shown in Figure 9. Permitted uses within this area include agriculture, sports park, solar farm, district energy plant, corporation yard, park and ride lot, transit parking facility, fueling station, roads, storm water and storm water quality basins, community gardens, avoided areas, sewer pump station and lines, water tanks and similar utilities. Water facilities shall be sized adequately to only serve these permitted uses. Furthermore, proposed uses must be consistent with these permitted uses, act as a buffer between urban and open space uses, and help strengthen and preserve the current location of the Urban Services Boundary.	
Land Use	LU-2. The County shall maintain an Urban Service Boundary that defines the long-range plans (beyond twenty five years) for urbanization and extension of public infrastructure and services, and defines important areas for protecting as open space and agriculture.	
Land Use	LU-3. It is the intent of the County to focus investment of public resources on revitalization efforts within existing communities, especially within commercial corridors, while also allowing planning and development to occur within strategic new growth areas.	

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	LU-4. The County shall give priority to residential development on vacant or underutilized sites within existing urban areas that have infrastructure capacity available.	
Land Use	LU-6. Provide for the development of vacant or underutilized portions of commercial projects and industrial-office parks with medium or high-density residential uses or mixed-use development where appropriate, such as near existing or planned transit service.	GHG-21: Update Community and Corridor Plans  GHG-22: Connecting Key Destinations
Land Use	LU-7. Provide for additional mixed use development in commercial parking areas where such uses would be compatible with surrounding uses and where parking demand can be appropriately accommodated or structured parking can be constructed.	GHG-21: Update Community and Corridor Plans
Land Use	LU-8. Infill projects that are consistent with the County's definition of a Quality Infill Project may participate in the County's Infill/Urban Tree Mitigation Program. The Tree Mitigation Infill Policy is as follows: Impacts to native trees designated for removal shall be calculated and mitigated based on canopy area coverage. Canopy replacement may utilize any tree species that is listed on the Tree Coordinator's list of recommended trees for parking lot shade. For measurement purposes, replacement tree canopy shall be calculated in the same manner as the parking lot shade requirements of Section 330-94 of the Sacramento County Zoning Code, using the ultimate canopy growth as specified on the Tree Coordinator's Tree Species Specifications. Tree canopy replacement shall, ideally, occur on site. In the event the physical constraints of the site preclude the additional replacement mitigation on-site, the following options may be utilized in coordination with the County Tree Coordinator and Mitigation Program: Planting in adjacent landscape/ corridor areas; Planting within local parks; Other plantings that may otherwise be arranged in the neighborhood or community; d. Participation in County programs including but not limited to payment of in lieu fees for use in tree care, preservation and maintenance programs, and other similar programs to the satisfaction of the County Tree Coordinator.	GHG-21: Update Community and Corridor Plans GHG-02: Urban Forestry
Land Use	LU-9. Residential buildout of planned communities shall occur at a minimum of the approved plan densities.	
Land Use	LU-11. It is the intent of the County to comprehensively plan for the revitalization of the targeted commercial corridors and invest the resources necessary to achieve the following: stimulate private investment; encourage development of vacant and underutilized parcels; support reuse and/or rehabilitation of abandoned or blighted buildings; encourage rezoning of excess industrial and commercial lands to allow for medium and high density residential or mixed use projects, and; avoid non transit supportive uses, such as industrial uses, low density residential, and uses that would necessitate large parking lots fronting on the street.	GHG-21: Update Community and Corridor Plans

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	LU-12. The County will prohibit land use projects which are not contiguous to the existing UPA, city boundaries, or existing planned communities or master plan areas (i.e. leapfrog development).	
Land Use	LU-14. Master or Specific plans may be prepared for subareas of an urban growth area for the purpose of prioritizing development opportunities. The boundaries of new Master or Specific Plan areas should be defensible and should take into account the physical nature and characteristic of the sub planning areas. The boundaries of these subareas should consider the following constraints and features: roadways, drainage watersheds, school districts, water districts, parks districts, etc.	
Land Use	LU-15. Planning and development of new growth areas should be consistent with Sacramento County-adopted Habitat Conservation Plans and other efforts to preserve and protect natural resources.	
Land Use	LU-19. Incompatible urban land uses should be buffered from one another by methods that retain community character, and do not consume large land areas or create pedestrian barriers.	
Land Use	LU-21. Promote a better balance of employment, neighborhood services, and different housing types by reviewing development projects and the surrounding community and designing new projects wherever feasible so that they maintain or improve the mix of uses in the community.	
Land Use	LU-22. Specific Plans and Community Plans should provide a balance of employment, neighborhood services, and different housing types wherever feasible.	GHG-21: Update Community and Corridor Plans
Land Use	LU-23. Providing compact, mixed use developments shall be an integral part of all master planning efforts for new growth areas and commercial corridors.	GHG-21: Update Community and Corridor Plans
Land Use	LU-24. Support private development requests that propose pedestrian- and transit-friendly mixed use projects in commercial corridors, town centers, and near existing or proposed transit stops.	GHG-14: Improved Transit Access  GHG-15: Improved Pedestrian Network and Facilities
Land Use	LU-26. When planning for new development in new communities, the features below shall be incorporated for their public health benefits and ability to encourage more active lifestyles, unless environmental constraints make this infeasible. In existing communities, the features below shall be considered, as appropriate and feasible: Where appropriate, compact, mixed use development and a balance of land uses including schools, parks, jobs, retail and grocery stores, so that everyday needs are within walking distance of homes. Grid or modified-grid pattern streets, integrated pathways and public transportation that connect multiple destinations and provide for alternatives to the automobile.	GHG-15: Improved Pedestrian Network and Facilities  GHG-16: Traffic Calming Measures  GHG-21: Update Community and Corridor Plans



Element	General Plan Policy Text	Supportive CAP Measures
	<p>Wide sidewalks, shorter blocks, well-marked crosswalks, on-street parking, shaded streets and traffic-calming measures to encourage pedestrian activity.</p> <p>Walkable commercial areas with features that may include doors and windows fronting on the street, street furniture, pedestrian-scale lighting, and served by transit when feasible.</p> <p>Open space, including important habitat, wildlife corridors, and agricultural areas incorporated as community separators and appropriately accessible via non-vehicular pathways.</p>	<p>GHG-22: Connecting Key Destinations</p>
Land Use	<p>LU-27. Provide safe, interesting and convenient environments for pedestrians and bicyclists, including inviting and adequately-lit streetscapes, networks of trails, paths and parks and open spaces located near residences, to encourage regular exercise and reduce vehicular emissions.</p>	<p>GHG-15: Improved Pedestrian Network and Facilities</p> <p>GHG-17: Improved Bicycle Network and Facilities</p>
Land Use	<p>LU-28. Encourage the development of energy-efficient buildings and communities.</p>	<p>GHG-06: Energy Efficiency and Electrification of Existing Residential Buildings</p> <p>GHG-05: Increase Energy Efficiency in New Commercial Buildings</p> <p>GHG-04: Energy Efficiency and Electrification of Existing Nonresidential Buildings</p>
Land Use	<p>LU-29. Promote voluntary participation in incentive programs to increase the use of solar photovoltaic systems in new and existing residential, commercial, institutional, and public buildings.</p>	
Land Use	<p>LU-30. Whenever feasible, incorporate energy-efficient site design, such as proper orientation to benefit from passive solar heating and cooling, into master planning efforts.</p>	
Land Use	<p>LU-32. It is the policy of Sacramento County to support and encourage Transit Oriented Development (TODs) in appropriate areas throughout the county. Development applications within ½ mile of a transit stop/station identified in Regional Transit’s Master Plan or a County-adopted Plan shall comply with the TOD development requirements as listed on Table 7. Appropriate locations include transit stops or nodes in commercial corridors, Bus Rapid Transit (BRT) or Light Rail stations, transit stops in new growth areas, or opportunity sites identified in Regional Transit’s Master Plan. The Planning Director will be responsible for determining an applications’ consistency with this policy and will take into account application-specific opportunities</p>	<p>GHG-13: Minimum Parking Standards</p> <p>GHG-21: Update Community and Corridor Plans</p>

Element	General Plan Policy Text	Supportive CAP Measures
	<p>and constraints, including reasonable opportunities for access to transit. If the Planning Department determines that an application is inconsistent with the intent of this policy, the Board of Supervisors shall be the appropriate hearing body to determine feasibility of consistency (see table 7). Master Plans (such as Specific Plans, corridor plans, etc.) adopted after the updated General Plan is approved may replace the standards in this policy and Table 7 with standards tailored to the subject area.</p>	
Land Use	<p>LU-33. Parking requirements may be reduced in order to meet the density requirements established by policy LU-32.</p>	
Land Use	<p>LU-34. Developments in the areas designated on the Land Use Diagram as Transit Oriented Development shall be designed in a manner that conforms to the concepts of transit-oriented development, including:</p> <ul style="list-style-type: none"> <li>▶ High intensity, mixed-use development concentrated in a Core Area within an easy walk (one quarter mile) of a transit stop on the Trunk or Feeder Line Network.</li> <li>▶ An emphasis on neighborhood support commercial services at street level in the Core Area that can serve the residents of the Core and surrounding Secondary Areas, with other employment encouraged in the TODs created along the Trunk Line Network.</li> <li>▶ A pleasant walking environment created through good land use design, short distances, amenities, and streetscape features.</li> <li>▶ • Direct, multiple linkages, especially for bicycles and pedestrians, between the Core Area and the surrounding Secondary Area.</li> </ul>	<p>GHG-21: Update Community and Corridor Plans</p> <p>GHG-22: Connecting Key Destinations</p>
Land Use	<p>LU-35. The primary concepts in LU-34 should be employed wherever feasible in new urban development.</p>	
Land Use	<p>LU-36. Community Plans and Specific Plans shall employ the primary concepts in LU-34 in designating locations for higher intensity mixed use development and designing circulation and pedestrian networks.</p>	<p>GHG-21: Update Community and Corridor Plans</p> <p>GHG-22: Connecting Key Destinations</p>
Land Use	<p>LU-37. Provide and support development of pedestrian and bicycle connections between transit stations and nearby residential, commercial, employment or civic uses by eliminating physical barriers and providing linking facilities, such as pedestrian overcrossings, trails, wide sidewalks and safe street crossings.</p>	<p>GHG-14: Improved Transit Access</p> <p>GHG-15: Improved Pedestrian Network and Facilities</p> <p>GHG-17: Improved Bicycle Network and Facilities</p> <p>GHG-21: Update Community and Corridor Plans</p>

Element	General Plan Policy Text	Supportive CAP Measures
		GHG-22: Connecting Key Destinations
Land Use	LU-38. Community Plans, Specific Plans, and development projects shall be designed to promote pedestrian movement through direct, safe, and pleasant routes that connect destinations inside and outside the plan or project area.	GHG-11: Reduce Vehicles Miles Traveled From New Development  GHG-15: Improved Pedestrian Network and Facilities
Land Use	LU-39. Support implementation of the ADA Transitional Plan and the Pedestrian Master Plan to create a network of safe, accessible and appealing pedestrian facilities and environments.	GHG-15: Improved Pedestrian Network and Facilities
Land Use	LU-40. Employ appropriate traffic calming measures in areas where pedestrian travel is desirable but made unsafe by a high volume or excessive speed of automobile traffic. Preference shall be given to measures that slow traffic and improve pedestrian safety while creating the least amount of conflict with emergency responders.	GHG-16: Traffic Calming Measures
Land Use	LU-41. Encourage placement of active uses, such as retailers, restaurants, and various services, on the ground floor of buildings in areas where the greatest levels of pedestrian activity are sought.	GHG-22: Connecting Key Destinations
Land Use	LU-42. Master planning efforts for new growth areas shall provide for separated sidewalks along all arterials and thoroughfares to make walking a safer and more attractive transportation option.	GHG-15: Improved Pedestrian Network and Facilities
Land Use	LU-43. Parking areas shall be designed to: <ul style="list-style-type: none"> <li>▶ Minimize land consumption;</li> <li>▶ Provide pleasant and safe pedestrian and bicycle movement;</li> <li>▶ Facilitate shared parking</li> <li>▶ Allow for the possible reuse of surface parking lots through redevelopment; and,</li> <li>▶ Minimize parking lot street frontage.</li> </ul>	
Land Use	LU-44. Affordable housing should be located in compact, mixed use developments near transit stations whenever feasible.	
Land Use	LU-46. Assure that regionally-oriented commercial and office uses and employment concentrations have adequate road access, high frequency transit service and an adequate but efficient supply of parking.	GHG-22: Connecting Key Destinations
Land Use	LU-47. Commercial areas within one-half mile of a TOD commercial core area should maximize pedestrian and transit-friendly uses.	

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	LU-48. Discourage the establishment and build-out of linear, strip pattern, commercial centers.	
Land Use	LU-50. All new employment-intensive County offices or offices providing walk-in services to the public shall be located along a Trunk Line or Feeder Line Network.	GHG-22: Connecting Key Destinations
Land Use	LU-52. New industrial uses with high employment densities that do not create significant noise, odor, or other negative impacts, such as office-industrial parks, shall be located with access to transit provided that appropriate measures are undertaken and maintained to mitigate nuisances and traffic.	
Land Use	LU-57. Future Agricultural-Residential development shall be limited to existing developed and infill Agricultural-Residential lands designated on the Land Use Diagram and such additional areas adjacent to existing developed lands to act as a buffer to new urban areas or as a buffer at the Urban Service Boundary as are consistent with LU-58.	
Land Use	LU-58. Community and Specific Plans prepared for urbanizing areas may provide for additional Agricultural-Residential areas provided they are functionally integrated with other urban uses in the context of the Plan.	
Land Use	LU-60. The County supports development proposals that divide vacant and developed AR/A1 and AR/A-2 zoned parcels inside the USB to their maximum zoning density.	
Land Use	LU-61. The County supports rezoning of lands within existing Agricultural-Residential areas inside the USB to create additional AR/A-1 and AR/A-2 zoned land uses when it is consistent with plans to provide for urban uses, appropriate infrastructure is available or planned, is in line with historic demand levels, and consolidates rural communities.	
Land Use	LU-63. All new AR/A-1 and AR/A-2 lots created within the USB shall either connect to or provide for ultimate connection to the public sewer and water system to the satisfaction of the local utility service provider.	
Land Use	LU-68. Give the highest priority for public funding to projects that facilitate infill, reuse, redevelopment and rehabilitation, mixed-use development, and that will result in per-person vehicle miles traveled lower than the County average, and the lowest priority for projects that do not comply with public facilities Master Plan phasing sequences.	GHG-11: Reduce Vehicles Miles Traveled From New Development  GHG-21: Update Community and Corridor Plans
Land Use	LU-70. Enact cost effective energy conservation performance standards consistent with USEPA Energy Star standards for new construction.	GHG-06: Energy Efficiency and Electrification of Existing Residential Buildings

Element	General Plan Policy Text	Supportive CAP Measures
		<p>GHG-05: Increase Energy Efficiency in New Commercial Buildings</p> <p>Measure Temp-5: Encourage the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens</p>
Land Use	LU-71. Reduce the energy impacts from new residential and commercial projects through investigation and implementation of energy efficiency measures during all phases of design and development.	GHG-05: Increase Energy Efficiency in New Commercial Buildings
Land Use	LU-72. Expansion of urban uses in the Delta shall be limited to the established Delta communities of Freeport, Hood, Courtland, Locke, and Walnut Grove and to specific small expansions that support the agriculturally and recreationally based economies of the Delta.	
Land Use	LU-74. The County will not support the development of new towns in rural areas extending beyond the Urban Services Boundary.	
Land Use	LU-75. Limited urban services may be provided to the town of Freeport, including marinas and waterside uses, due to extraordinary circumstances including, but not limited to: the town's historic nature, its immediate adjacency to the USB, and its proximity to encroaching urban development. However, the capacity of such services shall be strictly limited to serve existing urban development and buildout of parcels within the town's boundaries at existing zoned densities, as defined by Figure 7.	
Land Use	LU-76. The County generally supports Agricultural-Residential uses adjacent to the inside boundary of the USB to both establish a smooth transition from urban uses within the USB to the rural uses found outside the USB, as well as to reinforce the integrity of the USB by limiting the potential for urban uses to reach beyond it.	
Land Use	LU-77. Future agricultural-residential development outside the USB and outside Galt's Sphere of Influence shall be limited to existing agricultural-residential lands so designated on the Land Use Diagram and new areas adjacent to existing areas with agricultural-residential land use designations. Agricultural-Residential expansion within the City of Galt's Sphere of Influence shall be discouraged.	
Land Use	LU-79. The County supports consolidating substandard lots into standard lots consistent with prevailing zoning densities.	

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	LU-80. Rezones proposed for areas where urban services are not and will not be available outside the Urban Service Boundary and Galt Sphere of Influence shall be only to zones that do not allow densities to exceed 1 primary residence per five acres.	
Land Use	LU-82. Infill of existing Agricultural-Residential communities shall take precedence over expansion. Infill is defined as development within areas designated Agricultural-Residential on the Land Use Diagram. Each community is defined by the Agricultural-Residential land use classifications designated on the Land Use Diagram. Expansion is the change from Agriculture to Agricultural-Residential land use classifications.	GHG-21: Update Community and Corridor Plans
Land Use	LU-83. The County supports Agricultural-Residential expansion outside the USB when it is determined by the Board of Supervisors to be necessary to meet demand levels for agricultural-residential lands.	
Land Use	<p>LU-84. If the Board of Supervisors finds that the creation of additional Agricultural-Residential designated lands outside the Urban Services Boundary (USB) is warranted, as outlined by LU-82, then the following locational criteria apply:</p> <ol style="list-style-type: none"> <li>1. Encourage Agricultural-Residential expansion only where it can be shown that such expansion will serve to define community boundaries and preserve coherent neighborhoods. Agricultural-Residential expansion shall be proximate to other property designated Agricultural-Residential and form a logical expansion of an existing community;</li> <li>2. Agricultural-Residential expansion shall be limited to those areas that are consistent with the following criteria:               <ol style="list-style-type: none"> <li>(a) Maintain the existing separation of communities;</li> <li>(b) Avoid Prime Farmland;</li> <li>(c) Protect Farmland of Statewide Importance where agricultural production is feasible and viable using customary and reasonable management practices. The Board of Supervisors may rely upon written documentation from the Agricultural Commissioner that the land is no longer agriculturally feasible and viable;</li> <li>(d) Consistent with adopted County flood policy;</li> <li>(e) Protect areas identified as a Natural Preserve or Resource Conservation Area on the Land Use Diagram and all areas shown on the Open Space Vision Map in the Open Space Element.</li> </ol> </li> </ol>	
Land Use	LU-85. Agricultural-Residential expansion projects shall mitigate all impacts on existing rural services and schools.	
Land Use	LU-89. Support planning for and development of mixed use centers and urban villages along commercial corridors to improve quality of life by creating diverse neighborhood gathering places, supporting enhanced transit service and non-automotive travel, stimulating local economic development, eliminating blight and balancing land uses.	GHG-21: Update Community and Corridor Plans

Element	General Plan Policy Text	Supportive CAP Measures
		GHG-22: Connecting Key Destinations
Land Use	LU-90. Focus investment of County resources in commercial corridors to facilitate improvements to streetscapes, sidewalks, landscaping, undergrounding of utilities, and other infrastructure and public amenities to encourage and stimulate private investment.	Measure Flood-7: Establish an Underground Utilities Program Resistant to Flooding
Land Use	LU-91. Support district planning efforts that focus on specific areas in need of reinvestment and revitalization.	
Land Use	LU-92. Support development of a bus rapid transit system and light rail expansion by encouraging appropriate land uses and densities along planned routes.	
Land Use	LU-95. Support the ongoing conservation, maintenance and upgrading of the County's housing inventory.	
Land Use	LU-100. Discourage attempts to rezone vacant and underutilized infill parcels currently zoned for residential uses to other uses, except when to allow for mixed use developments that include a residential component.	GHG-21: Update Community and Corridor Plans
Land Use	LU-101. Support conversion of excess, vacant or underperforming commercial and industrial properties to residential uses or mixed use developments.	
Land Use	LU-102. Ensure that the structural design, aesthetics and site layout of new developments is compatible and interconnected with existing development.	GHG-22: Connecting Key Destinations
Land Use	LU-105. The County shall create redevelopment districts in those areas where deteriorated conditions and blight warrant planned redevelopment.	
Land Use	LU-106. The County shall encourage aggressive code enforcement activity in areas designated for redevelopment or revitalization.	
Land Use	LU-107. When siting new civic buildings and County offices, preference shall be given to locations in existing communities in need of revitalization.	
Land Use	<p>LU-111. Annexations should only be advocated which:</p> <ul style="list-style-type: none"> <li>▶ ensure provisions and demonstrate maintenance for adequate municipal services;</li> <li>▶ are consistent with state law and LAFCO standards and criteria;</li> <li>▶ provide for equitable distribution, based on region-wide analysis, of social services and low income housing needs;</li> <li>▶ • preserve community identity.</li> </ul>	
Land Use	LU-112. The County shall coordinate with regional planning agencies setting land use and environmental policies and programs and	Measure Water-6 Collaborate with Federal, State, and

Element	General Plan Policy Text	Supportive CAP Measures
	cooperate in the implementation of programs consistent with General Plan policy.	<p>Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity</p> <p>Measure Flood-8: Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and On-Going Flood-Related Climate Change Initiatives</p> <p>Measure SLR-1: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures</p>
Land Use	LU-113. The County shall work with SACOG to support implementation of Blueprint’s policies and land use objectives.	
Land Use	LU-114. It is the policy of Sacramento County that development and open space preservation in the Natomas Joint Vision Overlay Area occur in a comprehensive, responsible and cohesive manner that best addresses land use, economic development and environmental opportunities and challenges in Natomas.	
Land Use	LU-115 It is the goal of the County to reduce greenhouse gas emissions to 1990 levels by the year 2020. This shall be achieved through a mix of State and local action.	
Land Use	LU-116. The County shall consult with state and federal regulatory and resource agencies during initial review of development projects to identify potential environmental conflicts and establish, if appropriate, concurrent application processing schedules.	Measure Water-6 Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources,



Element	General Plan Policy Text	Supportive CAP Measures
		and Improve Capacity  Measure Flood-4: Coordinate with Federal, State, and Local Agencies to Improve Emergency Evacuation and Supply Transportation Routes
Land Use	LU-117. The County will provide information to applicants with projects in potential wetland or natural resource areas and provide coordination assistance with such entities as the Army Corps of Engineers, the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife in order to facilitate development review and permit review processes.	
Land Use	LU-119 The County shall only accept applications to expand the UPA or initiate an expansion of the UPA or any Master Plan processes outside of the existing UPA if the Board finds that the proposal meets the following: <ul style="list-style-type: none"> <li>▶ Parallel processes to expand UPA and prepare Master Plans: Proposed additions to the UPA will only be considered when accompanied by a request to initiate a Master Plan process for all land encompassed by the proposed UPA expansion boundary. Likewise, requests to initiate a Master Plan process outside the UPA will only be considered when accompanied by a request to expand the UPA to include all land encompassed by the proposed Master Plan.<sup>26</sup></li> <li>▶ Project Justification Statement and Outreach Plan: Proposed UPA expansions/Master Plan processes must be accompanied by both a "Justification Statement" and an "Outreach Plan". The Justification Statement shall be a comprehensive explanation of the proposed request and the development it would allow. It must include background information, reasoning, and the goal(s) and benefits of the proposed project. The Outreach Plan shall describe how the project proponent plans to inform and engage neighbors and members of the general public about the proposed UPA expansion and project.</li> <li>▶ Proximity to existing urbanized areas: Proposed UPA expansions/Master Plan processes must have significant borders that are adjacent to the existing UPA or a city boundary. As a guideline, "significant borders" generally means that the length of the boundary between the existing UPA or city boundary and the proposed UPA expansion/Master Plan should be 25 percent of the length of the boundary of the UPA expansion area.</li> </ul>	

Element	General Plan Policy Text	Supportive CAP Measures
	<ul style="list-style-type: none"> <li>▶ Logical, comprehensive, and cohesive planning boundaries: Proposed UPA expansions/Master Plan processes must consist of a contiguous set of parcels that have a regular outside boundary consistent with the logical planning boundary illustrations below. All parcels within this boundary must be included in both the proposed UPA expansion and proposed Master Plan area.</li> </ul>	
Land Use	LU-120 <i>SEE ORIGINAL TEXT</i>	GHG-11: Reduce Vehicles Miles Traveled From New Development
Land Use	LU-121. The criteria in LU-120 regarding approval of proposed UPA expansions and/or Master Plans outside of the existing UPA should be used as guidelines for any proposed Master Plan within the existing UPA.	
Land Use	<p>LU-122. The Urban Policy Area is intended to provide an adequate supply of developable land sufficient to accommodate projected growth. The UPA shall also include additional preserve lands to ensure an appropriate supply of open space. It is the policy and intent of the County to evaluate the UPA at a minimum of five year intervals, to determine if an expansion is needed to maintain a constant adequate supply of land. Guidelines to be considered by the Board in determining the expansion of the Urban Policy Area include:</p> <ul style="list-style-type: none"> <li>Buildout rates by type of use, unit type and density for the previous 5-year period.</li> <li>Infill trends and opportunities.</li> <li>Population and job growth projections as reflected by a minimum of three independent sources.</li> <li>Evidence that the infrastructure capacity and service availability exist or can be extended to the property.</li> <li>Evidence that the proposed expansion is consistent with Sacramento County-adopted Habitat Conservation Plan goals and objectives, or where such a draft or adopted Plan does not exist, evidence that important natural resources lands, agricultural lands, and open space lands will be protected and integrated into a cohesive and interconnected network of open space within the UPA.</li> </ul>	GHG-21: Update Community and Corridor Plans Measure NWL-01: South Sacramento Habitat Conservation Plan
Land Use	<p>LU-123. Before granting approval of an amendment to the Land Use Diagram, the Board of Supervisors shall find that:</p> <ul style="list-style-type: none"> <li>▶ the request is consistent with the objectives and policies of the General Plan;</li> <li>▶ the request is consistent with the goals and objectives of a Sacramento County-adopted Habitat Conservation Plan;</li> <li>▶ approval of the proposal will not adversely affect the fiscal resources of the County;</li> <li>▶ the project will be consistent with the performance standards in this Plan and, for urban uses in urban growth areas, the project complies with the requirements of LU-13.</li> </ul>	

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	<p>LU-125. The County shall not accept applications to amend the Land Use Diagram from a designation in Column A to a designation in Column B of Table 10 for property outside of the Urban Service Boundary unless consistent with Policy LU-72.</p>	
Land Use	<p>LU-126. The County shall not accept applications to amend the Land Use Diagram from a designation in Column A, in Table 10 to an Agricultural-Residential Land Use Designation for property outside the Urban Service Boundary, unless:</p> <ul style="list-style-type: none"> <li>▶ The property is proximate to an existing area designated for agricultural-residential land use.</li> <li>▶ The property is consistent with Policy LU-82 &amp; LU-83.</li> <li>▶ The change in designation will not trigger the need for urban services and cumulative traffic impacts will be within the capacity of the planned road system.</li> </ul>	
Land Use	<p>LU-127. The County shall not expand the Urban Service Boundary unless:</p> <ul style="list-style-type: none"> <li>▶ There is inadequate vacant land within the USB to accommodate the projected 25 year demand for urban uses; and</li> <li>▶ The proposal calling for such expansion can satisfy the requirements of a master water plan as contained in the Conservation Element; and</li> <li>▶ The proposal calling for such expansion can satisfy the requirements of the Sacramento County Air Quality Attainment Plan; and</li> <li>▶ The area of expansion does not incorporate open space areas for which previously secured open space easements would need to be relinquished; and</li> <li>▶ The area of expansion does not include the development of important natural resource areas, aquifer recharge lands or prime agricultural lands;</li> <li>▶ The area of expansion does not preclude implementation of a Sacramento County-adopted Habitat Conservation Plan;</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>▶ The Board approves such expansion by a 4/5ths vote based upon on finding that the expansion would provide extraordinary environmental, social or economic benefits and opportunities to the County.</li> </ul>	
Open Space	<p>OS-1. Actively plan to protect, as open space, areas of natural resource value, which may include but are not limited to wetlands preserves, riparian corridors, woodlands, and floodplains associated with riparian drainages.</p>	
Open Space	<p>OS-2. Maintain open space and natural areas that are interconnected and of sufficient size to protect biodiversity, accommodate wildlife movement and sustain ecosystems.</p>	

Element	General Plan Policy Text	Supportive CAP Measures
Open Space	OS-4. Open space acquisition shall be directed to lands identified on the Open Space Vision Diagram and associated component maps.	
Open Space	OS-5. Fee title and easement acquisitions within stream corridors shall be consistent with any adopted Master Drainage Plans of the Department of Water Resources.	
Open Space	OS-6. The County may seek to acquire land for open space purposes through either fee title or less than fee interest; however, such acquisitions shall be negotiated only with willing sellers.	
Open Space	OS-7. Costs of acquiring public open space shall be equitably distributed between existing and new residents.	
Open Space	<p>OS-8. The County shall consider adopting a comprehensive Open Space Preservation Action Plan which implements the Open Space Vision Diagram. Any such action plan shall be compatible with County adopted Habitat Conservation Plans. This Action Plan should include:</p> <ul style="list-style-type: none"> <li>▶ An inventory of open space resources.</li> <li>▶ Refinement of targeted areas for preservation identified in this Element, with cost estimates for acquisition.</li> <li>▶ An administrative structure which provides for governance by the Board of Supervisors.</li> <li>▶ Provisions for permanent preservation of open space lands acquired in fee title or less than fee interest will only be negotiated with willing sellers.</li> <li>▶ Funding for acquisition.</li> </ul>	
Open Space	OS-9. Open space easements obtained and offered as mitigation shall be dedicated to the County of Sacramento, an open space agency, or an organization designated by the County to protect and manage the open space. Fee title of land may be dedicated to the County, the open space agency, or organization provided it is acceptable to the appropriate department or agency (Please also refer to Section V of the Conservation Element for related policies).	
Open Space	OS-10. Sacramento County shall seek to attain the County Regional Park System standard of 20 acres of regional parkland per 1,000 population.	
Open Space	OS-11. Establish trail connections and linkages within the County and across jurisdictional boundaries that are compatible with existing land uses. These trail connections shall have the capability of being Class I trails (off-street, separated facilities) with grade separations wherever feasible.	
Open Space	OS-12. The County shall seek to establish greenbelts to serve as habitat corridors and community separators. These shall be located: Between agricultural-residential communities within the unincorporated County; and Where feasible, between the unincorporated County and adjacent cities.	
Open Space	OS-13. Permit development clustering in urban areas where grouping of units at a higher density would facilitate on-site protection of	

Element	General Plan Policy Text	Supportive CAP Measures
	<p>woodlands, wetlands, steep slopes, urban stream corridors, scenic areas, or other appropriate natural features as open space, provided that:</p> <ul style="list-style-type: none"> <li>▶ Urban infrastructure capacity is available for urban use.</li> <li>▶ On-site resource protection is appropriate and consistent with other General Plan Policies.</li> <li>▶ General Plan policies pertaining to floodplain fill or natural preserves would not preclude development of the proposed use in the area to be protected as open space.</li> <li>▶ The architecture and scale of development is appropriate for the area.</li> <li>▶ Development rights for open space areas are permanently dedicated via conservation easements and appropriate long-term management is provided for by either a public agency or other appropriate entity. (Please also refer to the Conservation Element for related policies).</li> </ul>	
Open Space	<p>OS-14. Permit development clustering in rural areas where grouping units at a higher density would create an open space buffer protecting intensive farming activities, provided that:</p> <ul style="list-style-type: none"> <li>▶ Clustered residential lots are adjacent to and comparable in lot size to existing agricultural areas.</li> <li>▶ Septic disposal systems are not concentrated in a manner which increases the potential for groundwater contamination.</li> <li>▶ General Plan policies pertaining to floodplain or natural preserves would not preclude development of the proposed use in the area to be protected as open space.</li> <li>▶ The project complies with any applicable development credits transfer ordinance relating to density bonuses.</li> <li>▶ Development rights for open space areas are permanently dedicated via conservation easements and appropriate long-term management is provided for by either a public agency or other appropriate entity. (Please also refer to the Conservation Element for related policies).</li> <li>▶ The overall average density of the project is comparable to the average lot sizes in the area.</li> </ul>	
Open Space	<p>OS-15. Consider density bonuses as a method of encouraging development clustering and open space preservation.</p>	
Public Facilities	<p>PF-1. New water facilities shall be planned to minimize impacts to in-stream water flow in the Sacramento and American Rivers.</p>	
Public Facilities	<p>PF-11. The County shall not support extension of the regional interceptor system to provide service to areas within the unincorporated County which are beyond the Urban Service Boundary. This shall not prohibit the County from supporting the extension of the regional interceptor system to areas outside the USB which are being proposed for annexation to a city.</p>	

Element	General Plan Policy Text	Supportive CAP Measures
Public Facilities	PF-13. Public sewer systems shall not extend service into agricultural-residential areas outside the urban policy area unless the Environmental Management Department determines that there exists significant environmental or health risks created by private disposal systems serving existing development and no feasible alternatives exist to public sewer service.	
Public Facilities	PF-20. Support the implementation of recycling programs for the unincorporated area of Sacramento County through the Source Reduction and Recycling Element of the County Integrated Waste Management Plan in order to meet the requirements of AB 939.	
Public Facilities	PF-26. Solid waste collection vehicles shall minimize dispersion of litter, odor and fumes.	
Public Facilities	PF-28. Community and Specific Plans shall consider the needs of community colleges and address the feasibility and appropriateness of off-campus facilities, particularly in TODs.	GHG-21: Update Community and Corridor Plans
Public Facilities	PF-29. Schools shall be planned as a focal point of neighborhood activity and interrelated with neighborhood retail uses, churches, neighborhood and community parks, greenways and off-street paths whenever possible.	GHG-22: Connecting Key Destinations
Public Facilities	PF-30. New elementary schools in the urban area should be planned whenever possible so that almost all residences will be within walking distance of the school (one mile or less) and all residences are within two miles of a school.	GHG-11: Reduce Vehicles Miles Traveled From New Development  GHG-20: Safe Routes to School  GHG-22: Connecting Key Destinations
Public Facilities	PF-31. Schools shall be planned adjacent to neighborhood parks whenever possible and designed to promote joint use of appropriate facilities. The interface between the school and park shall be planned with an open design and offer unobstructed views to promote safety.	GHG-20: Safe Routes to School
Public Facilities	PF-32. Elementary schools shall not be located along arterials and thoroughfares. Junior high and high schools should be located near roadways with adequate capacity and should provide adequate parking to facilitate the transport of students.	GHG-20: Safe Routes to School
Public Facilities	PF-33. New community college campuses and high schools within the urban service boundary shall be located along arterial or thoroughfare streets, with high priority to location adjacent to transportation corridors identified on the Transportation Plan Map.	GHG-11: Reduce Vehicles Miles Traveled From New Development  GHG-20: Safe Routes to School  GHG-22: Connecting Key Destinations

Element	General Plan Policy Text	Supportive CAP Measures
Public Facilities	PF-34 All school site plans shall be designed to minimize traffic speed and maximize traffic flow around the school, allowing for several access points to and from the site.	GHG-20: Safe Routes to School  GHG-16: Traffic Calming Measures
Public Facilities	PF-35. New schools should link with planned bikeways and pedestrian paths wherever possible.	GHG-20: Safe Routes to School  GHG-22: Connecting Key Destinations
Public Facilities	PF-48. Locate future library sites to be accessible by car, bicycle, foot, public transportation, and have sufficient off-street parking.	GHG-22: Connecting Key Destinations
Public Facilities	PF-54. Require new development to install fire hydrants and associated water supply systems which meet the fire flow requirements of the appropriate fire district.	
Public Facilities	PF-55. New development shall provide access arrangements pursuant to the requirements of the California Fire Code.	
Public Facilities	PF-56. Infill development shall be provided adequate off-site improvements to meet on-site fire flow requirements.	
Public Facilities	PF-59. Alternative methods of fire protection and access must be instituted if access is reduced to emergency vehicles.	Measure Fire-04: Coordinate and Improve Emergency Preparedness Systems
Public Facilities	PF-61. Mitigation fees may be established by the Board of Supervisors or Fire Districts for the purpose of funding adequate fire protection and emergency medical response facilities provided they find that such fees are critical and necessary to meet the facility funding needs of the fire district and that existing methods of financing are inadequate.	Measure Fire-04: Coordinate and Improve Emergency Preparedness Systems
Public Facilities	PF-69. Cooperate with the serving utility to minimize the potential adverse impacts of energy production and distribution facilities to environmentally sensitive areas by, when possible, avoiding siting in the following areas: <ul style="list-style-type: none"> <li>▶ Wetlands.</li> <li>▶ Permanent marshes.</li> <li>▶ Riparian habitat.</li> <li>▶ Vernal pools.</li> <li>▶ Oak woodlands.</li> <li>▶ Historic and/or archaeological sites and/or districts.</li> </ul>	Measure Flood-6: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable

Element	General Plan Policy Text	Supportive CAP Measures
Public Facilities	PF-73. Cogeneration facilities are prohibited outside the Urban Service Boundary, except as part of an existing processing operation such as for dairying, agricultural, or landfill purposes.	
Public Facilities	PF-76. The County supports the generation and use of energy produced from renewable resources.	Measure BE-2: Solar for County Buildings
Public Facilities	<p>PF- 77. The County supports a variety of solar and other renewable energy sources, including:</p> <ul style="list-style-type: none"> <li>▶ A dispersed system that feeds into the electric delivery system,</li> <li>▶ On-site facilities that primarily supply energy for on-site uses, and</li> <li>▶ Properly sited large, centralized facilities consistent with Policy PF-78.</li> </ul>	Measure BE-2: Solar for County Buildings
Public Facilities	<p>PF-78 Large multi-megawatt solar and other renewable energy facilities should be sited at locations that will minimize impacts. The following guidelines should be considered, though it is recognized that each project is different and must be analyzed individually, and that other factors may affect the suitability of a site. Locational criteria for wind turbines should be determined on a case-by-case basis and referred to the Sacramento County Airport System and the FAA for review and comment.</p> <ul style="list-style-type: none"> <li>▶ Desirable sites are those which will minimize impacts to county resources and will feed into the electrical grid efficiently, including: <ul style="list-style-type: none"> <li>▪ Lands with existing appropriate land use designations, e.g. industrial.</li> <li>▪ Brownfield or other disturbed properties (e.g. former mining areas, mine tailings) or land that has been developed previously and has lost its natural values as open space, habitat or agricultural land.</li> <li>▪ Sites close to existing facilities necessary for connection to the electrical grid to minimize the need for additional facilities and their impacts, and to improve system efficiency.</li> </ul> </li> <li>▶ Other sites may be used for siting renewable energy facilities after consideration of important natural and historic values of the land, including: <ul style="list-style-type: none"> <li>▪ <u>Farmlands</u>. Site on farmlands of the lowest quality, e.g. land classified by the Department of Conservation as “other land” or “grazing land”, then consider farmlands of local, unique or statewide importance. Avoid high quality farmlands, especially land classified by the Department of Conservation as prime and lands under active Williamson Act contracts.</li> <li>▪ <u>Habitat and Other Open Space Lands</u>. Site on lands with the lowest habitat and open space values, and consider how a site will affect conservation planning, e.g. the Conservation Strategy in the South Sacramento Habitat Conservation Plan.</li> </ul> </li> </ul>	



Element	General Plan Policy Text	Supportive CAP Measures
	<p>Avoid areas containing vernal pool complexes and associated uplands.</p> <ul style="list-style-type: none"> <li>▪ <u>Scenic Values</u>. Site in areas of lowest scenic values and avoid visually prominent locations e.g. ridges, designated scenic corridors and designated historic sites.</li> <li>▪ <u>Cultural Resources</u>. Site in areas that are known to have limited potential for containing cultural resources. Otherwise, avoid sites with known cultural resources.</li> </ul>	
Public Facilities	PF-79. New solar and other renewable energy facilities should be designed and developed so as to minimize impacts to sensitive biological resources such as oak woodlands and vernal pools, cultural resources (including designated historic landscapes), or farmlands as defined by the California Department of Conservation. Nearby farm operations shall not be negatively affected by renewable energy facilities, per the policies of the Right-to-Farm Ordinance and the Agricultural Element.	
Public Facilities	PF-80. Locate solar facilities, and design and orient solar panels in a manner that addresses potential problems of glare consistent with optimum energy and capacity production.	
Public Facilities	PF-81. The County supports renewable energy facilities that convert and mitigate problem waste streams and residues that adversely impact environmental quality.	
Public Facilities	PF-82. The County supports the placement of large multi-megawatt solar facilities on rooftops and over parking lots to minimize land use impacts associated with these systems.	
Public Facilities	PF-84. New transmission lines constructed within existing and planned urban areas should utilize existing transmission corridors whenever practical. Secondary preferred locations are adjacent to railway and freeway corridors when feasible.	
Public Facilities	PF-92. Transmission lines should avoid to the greatest extent possible, cultural resources and biological resources such as wetlands, permanent marshes, riparian habitats, vernal pools, and oak woodlands. When routed through such areas, transmission lines should have maximum line spans and cross at the narrowest points which involve minimal cutting and cropping of vegetation, maintaining the drainage regime of wetland basins. Additionally, when feasible, such routes should be maintained to serve as biological dispersion corridors between areas of high biodiversity.	
Public Facilities	PF-95. Transmission lines should avoid paralleling recreation areas, historic areas, rural scenic highways, landscaped corridors, drainage basins, wetland mitigation, tree planting, and designated federal or state wild and scenic river systems, although these areas may be considered as options if facilities already exist there.	
Public Facilities	PF-96. Locate transmission facilities in a manner that maximizes the screening potential of topography and vegetation.	
Public Facilities	PF-99. Minimize overhead wire congestion using techniques such as undergrounding or combining lines on poles for the same voltage.	Measure Flood-7: Establish an

Element	General Plan Policy Text	Supportive CAP Measures
		Underground Utilities Program Resistant to Flooding
Public Facilities	PF-105. Landscaping shall be included in corridor design which meets the standards of the surrounding land use zone and is compatible with the overhead line design.	
Public Facilities	PF-109. Public facility financing plans for developing neighborhoods may include the cost of undergrounding new and existing sub-transmission lines. Costs should be shared by all participating developers.	Measure Flood-7: Establish an Underground Utilities Program Resistant to Flooding
Public Facilities	PF-110. In areas of renovation and redevelopment, install sub-transmission and distribution lines underground, when feasible, with installation costs provided to the utility by redevelopment funds. Installation should be designed in a manner that minimizes impacts to any historical features.	Measure Flood-7: Establish an Underground Utilities Program Resistant to Flooding
Public Facilities	PF-124. Consistent with its infill development standards and mixed use Commercial Corridor plans, the County in consultation with the local recreation and park districts shall encourage new infill and Corridor development projects to provide small plazas, pocket parks, civic spaces, and other gathering places that are available to the public to help encourage pedestrian activity, meet recreational needs and service standards consistent with Smart Growth principles.	GHG-21: Update Community and Corridor Plans
Safety	SA-1. The County shall require geotechnical reports and impose the appropriate mitigation measures for new development located in seismic and geologically sensitive areas.	
Safety	SA-3. The County shall support efforts by Federal, State, and other local jurisdictions to investigate local seismic and geological hazards and support those programs that effectively mitigate these hazards.	
Safety	SA-4. The County shall prohibit development on ground surfaces which exceed 40 percent in slope, such as the bluff areas along the American River. Development shall be set back from these slopes at a distance established by the Zoning Code.	
Safety	SA-5. A comprehensive drainage plan for major planning efforts shall be prepared for streams and their tributaries prior to any development within the 100-year floodplain and/or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, defined by full watershed development without channel modifications. The plan shall: <ul style="list-style-type: none"> <li>a. Determine the elevation of the future 100-year flood and/or the 200-year flood in areas subject to the Urban Level of Flood Protection, associated with planned and full development of the watershed;</li> <li>b. Determine the boundaries of the future 100-year floodplain and/or the 200-year floodplain in areas subject to the Urban</li> </ul>	Measure Flood-1: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events  Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green

Element	General Plan Policy Text	Supportive CAP Measures
	<p>Level of Flood Protection, for both flood elevations (planned and full development) based on minimum 2-foot contour intervals;</p> <p>c. Assess the feasibility of gravity drainage into the existing flowline of the stream;</p> <p>d. Assess the feasibility of alternative means of drainage into the stream;</p> <p>e. Identify potential locations for sedimentation ponds and other stormwater treatment facilities;</p> <p>f. Determine practical channel improvements and/or detention basins to provide the flood control needs of the proposed development;</p> <p>g. Determine the location and extent of marsh, vernal pool and riparian habitat;</p> <p>h. Develop measures for protecting and mitigating natural habitat;</p> <p>i. Develop measures for protecting and mitigating for federal and state listed endangered species;</p> <p>j. Develop and ensure implementation of measures that would reduce vector larvae;</p> <p>k. Identify appropriate plant species to be included as part of the natural features of the comprehensive drainage plan. (Modified 2016)</p>	<p>Infrastructure Solutions</p> <p>Measure Flood-11: Identify Concrete Channel Restoration Areas</p> <p>Measure Flood-12: Replant Bare or Disturbed Areas</p>
Safety	<p>SA-6. The County will coordinate with the City of Sacramento, the Army Corps of Engineers, the Sacramento Area Flood Control Agency, and other Federal, State and local governments and agencies to develop a plan to finance, develop and construct flood control project improvements to reduce flooding potential in Sacramento County. The construction of flood control projects along the Sacramento and American Rivers and the immediate connection of local streams to these rivers shall be included in these projects. Such projects should provide 200-year flood protection.</p>	<p>Measure Flood-1: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events</p> <p>Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions</p> <p>Measure Flood-8: Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and On-Going Flood-Related Climate Change Initiatives</p>
Safety	<p>SA-6a. The County will continue to coordinate with parties responsible for flood management facilities and structures (e.g., pump stations,</p>	<p>Measure Flood-1: Evaluate and</p>

Element	General Plan Policy Text	Supportive CAP Measures
	<p>levees, canals, channels, and dams) to provide proper maintenance and/or improvements. (Added 2016)</p>	<p>Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events</p> <p>Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions</p>
<p>Safety</p>	<p>SA-6b. The County will continue to coordinate with relevant organizations and agencies (e.g., Federal Emergency Management Agency (FEMA) and State of California Department of Water Resources (CADWR)) when updating floodplain mapping, flood management plans, local hazard mitigation plans, and other emergency response plans to consider the impacts of urbanization and climate change on long-term flood safety and flood event probabilities. (Added 2016)</p>	<p>Measure Flood-8: Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and On-Going Flood-Related Climate Change Initiatives</p> <p>Measure Flood-15: Improve Flood Warning and Information Dissemination</p>
<p>Safety</p>	<p>SA-6c. The County will continue to coordinate with local, regional, state, and federal agencies to maintain an adequate flood management information base, prepare risk assessments, and identify strategies to mitigate flooding impacts. (Added 2016)</p>	<p>Measure Flood-1: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events</p> <p>Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions</p> <p>Measure Flood-6: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and</p>

Element	General Plan Policy Text	Supportive CAP Measures
		<p>Upgrade and/or Relocate Infrastructure Where Applicable</p> <p>Measure Flood-8: Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and On-Going Flood-Related Climate Change Initiatives</p>
Safety	<p>SA-7. In accordance with the County Floodplain Management Ordinance, the County shall locate, when feasible, new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities; or identify construction methods or other methods to minimize damage if these facilities are located in flood hazard zones.</p>	<p>Measure Flood-6: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable</p> <p>Measure Flood-7: Establish an Underground Utilities Program Resistant to Flooding</p>
Safety	<p>SA-8. Maintain the structural and operational integrity of essential public facilities during flooding.</p>	<p>Measure Flood-6: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable</p>
Safety	<p>SA-9. New and modified bridge structures should minimize any increase in water surface elevations of the 100-year floodplain, or the 200-year floodplain in areas subject to the Urban Level of Flood Protection. (Modified 2016)</p>	<p>Measure Flood-4: Coordinate with Federal, State, and Local Agencies to Improve Emergency Evacuation and Supply</p>

Element	General Plan Policy Text	Supportive CAP Measures
		Transportation Routes
Safety	SA-10. Fill within the 100-year floodplain of creeks outside of the Urban Service Boundary is permissible to accommodate structures (e.g., residential, commercial, accessory) and septic systems, and only when the Board of Supervisors finds that the fill will not impede water flows or storm runoff capacity. Such development shall not cause an increase in base flood elevation of the 100-year floodplain exceeding 0.10 feet, unless analysis clearly indicated that the physical and/or economic use of adjacent property within the floodplain will not be adversely affected. A permit is required if the fill is within the jurisdiction of the Central Valley Flood Protection Board.	<p>Measure Flood-1: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events</p> <p>Measure Flood-5: Invest in Use of Pervious Pavements and Landscaping in Developed Areas and Restrict the Use of Paved Surfaces</p>
Safety	SA-11. The County shall implement the improvement of natural drainage channels and certain floodplains for urbanized or urbanizing portions of the County to reduce local flooding. Such improvements shall comply with the General Plan policies contained in the Conservation Element, Urban Streams, and Channel Modification Section.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Safety	SA-12. The County shall continue local efforts that encourage implementation of the Federal Flood Insurance Program.	
Safety	SA-13. Where new upstream development in Sacramento County will increase or potentially impact runoff onto parcels downstream in a neighboring jurisdiction, such as the City of Sacramento, Sacramento County will coordinate with the appropriate neighboring jurisdiction to mitigate such impacts.	Measure Flood-5: Invest in Use of Pervious Pavements and Landscaping in Developed Areas and Restrict the Use of Paved Surfaces
Safety	SA-14. The County shall require, when deemed to be physically or ecologically necessary, all new urban development and redevelopment projects to incorporate runoff control measures to minimize peak flows of runoff and/or assist in financing or otherwise implementing Comprehensive Drainage Plans.	<p>Measure Flood-1: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events</p> <p>Measure Flood-5: Invest in Use of</p>

Element	General Plan Policy Text	Supportive CAP Measures
		Pervious Pavements and Landscaping in Developed Areas and Restrict the Use of Paved Surfaces
Safety	SA-15. The County shall regulate, through zoning and other ordinances, land use and development in all areas subject to potential flooding and prohibit urban uses on unprotected flood land.	Measure SLR-1: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures
Safety	SA-16. Deny creation of parcels that do not have buildable areas outside the 100-year floodplain, or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, unless otherwise allowed in the Floodplain Management Ordinance. (Modified 2016)	Measure SLR-1: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures
Safety	SA-17. For residential zoning, the area outside the 100-year floodplain, or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, must be contiguous or reasonably situated to provide buildable area for a residence and associated structures. Examples of structures include swimming pools, sheds, barns, detached garages, and other outbuildings that are normally associated with residential development. There may be exceptions (such as the Delta area) as allowed in the Floodplain Management Ordinance. (Modified 2016)	Measure SLR-1: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures
Safety	SA-18. Vehicular access to the buildable area of newly created parcels must be at or above the 10-year flood elevation. Exceptions may be made when the existing public street from which access is obtained is below the 10-year flood elevation. There may be exceptions (such as the Delta area) as allowed in the Floodplain Management Ordinance.	Measure SLR-1: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements

Element	General Plan Policy Text	Supportive CAP Measures
		to Protect Vulnerable Populations, Functions, and Structures
Safety	SA-18a. Provide unobstructed access to levees on county-owned lands, whenever practicable, for maintenance and emergencies. Require setbacks and easements to provide access to levees from private property. (Added 2016)	
Safety	SA-18b. Urban flood control levees should have adequate setbacks consistent with local, regional, State, and federal design and management standards. (Added 2016)	
Safety	SA-19. Creation of lots that require watercourse crossings for single lots, or that will likely encourage watercourse crossings to be built by property owners (lots with useable area on both sides of a watercourse) will not be allowed unless a detailed hydraulic study is approved by Water Resources and there is found to be no adverse impact in accordance with the County Floodplain Management Ordinance.	
Safety	SA-20. Levees for the purpose of floodplain reclamation for development shall be strongly discouraged. Floodplain restoration shall be encouraged to provide flood protection and enhancement and protection of a riparian ecosystem.	Measure Flood-3: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Safety	SA-21. If levee construction is approved to reclaim floodplain for new development, 200- year flood protection is required.	
Safety	SA-22. Areas within a 100-year floodplain, or within the 200-year floodplain in areas subject to the Urban Level of Flood Protection, shall not be upzoned to a more intensive use unless and until a Master Drainage Plan is prepared that identifies areas of the floodplain that may be developed. (Modified 2016)	Measure SLR-1: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures
Safety	SA-22a. Sacramento County will evaluate development projects and all new construction located within a defined Flood Hazard Zone (FHZ) to determine whether the 200-year Urban Level of Flood Protection or 100-year FEMA flood protection applies, and whether the proposed development or new construction is consistent with that standard. Prior to approval of development projects or new construction subject to either standard, the appropriate authority must make specific finding(s) related to the following:	Measure SLR-1: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect



Element	General Plan Policy Text	Supportive CAP Measures
	<p>a. Urban Level of Flood Protection standard (200-year) applies to projects in a Flood Hazard Zone that meet certain criteria, developed by the State of California Department of Water Resources, related to urbanization, watershed size and potential flood depth.</p> <p>b. b. Federal Emergency Management Agency (FEMA) standard of protection (100- year) applies to projects in a Special Flood Hazard Area that are not subject to the Urban Level of Flood Protection. (Added 2016)</p>	<p>Vulnerable Populations, Functions, and Structures</p>
Safety	<p>SA-22b. New development shall be elevated as required by the applicable flood standards (100-year, or 200-year in areas subject to the Urban Level of Flood Protection) and should be constructed to be resistant to flood damage consistent with the Floodplain Management Ordinance. (Added 2016)</p>	<p>Measure SLR-1: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures</p>
Safety	<p>SA-23. The County shall require that all new development meets the local fire district standards for adequate water supply and pressure, fire hydrants, and access to structures by firefighting equipment and personnel.</p>	
Safety	<p>SA-24. The County shall require, unless it is deemed infeasible to do so, the use of both natural and mechanical vegetation control in lieu of burning or the use of chemicals in areas where hazards from natural cover must be eliminated, such as levees and vacant lots.</p>	<p>Measure Fire-04: Coordinate and Improve Emergency Preparedness Systems</p>
Safety	<p>SA-25. The County shall work with local fire districts to develop high visibility fire prevention programs, including those which provide voluntary home inspections and awareness of home fire prevention measures.</p>	<p>Measure Fire-04: Coordinate and Improve Emergency Preparedness Systems</p>
Safety	<p>SA-26. The County and fire districts shall develop programs to provide citizens with self-preparedness and community readiness skills for large or extended accidental, natural, and terrorist emergencies/incidents.</p>	<p>Measure Fire-04: Coordinate and Improve Emergency Preparedness Systems</p>

Element	General Plan Policy Text	Supportive CAP Measures
Safety	SA-27. The County shall require, where appropriate, the use of fire resistant landscaping and building materials for new construction developments that are cost effective.	
Safety	SA-28. The County shall encourage and require, to the maximum extent feasible, automatic fire sprinkler systems for all new commercial and industrial development to reduce the dependence on fire department equipment and personnel.	
Safety	SA-30. The County, medical community, and fire districts shall work to improve EMS response system that includes first responder emergency care and transportation services. <ul style="list-style-type: none"> <li>▶ Properly locating resources to provide timely response</li> <li>▶ Paramedic services from every fire station</li> </ul>	
Safety	SA-31. The County shall continue to maintain, periodically update, and test the effectiveness of its Emergency Response Plan.	Measure Fire-04: Coordinate and Improve Emergency Preparedness Systems
Safety	SA-32 The County will implement the Local Hazard Mitigation Plan in the planning and operations of the County to achieve the goals, objectives, and actions of the County’s Local Hazard Mitigation Plan.	
Safety	SA-33. The County shall continue its coordinative efforts, including evacuation planning, with service agencies, the cities within the County, and cities within surrounding counties.	Measure Fire-04: Coordinate and Improve Emergency Preparedness Systems Measure  Flood-4: Coordinate with Federal, State, and Local Agencies to Improve Emergency Evacuation and Supply Transportation Routes
Safety	SA-34. The County shall increase its efforts to inform and educate the general public of disaster response and emergency preparedness procedures.	Measure Fire-04: Coordinate and Improve Emergency Preparedness Systems
Safety	SA-35. The County shall ensure that the siting of critical emergency response facilities such as hospitals, fire, sheriff’s offices and substations, and other emergency service facilities and utilities have	Measure Temp-1: Protect Critical Infrastructure Vulnerable to

Element	General Plan Policy Text	Supportive CAP Measures
	minimal exposure to flooding, seismic and geological effects, fire, and explosions.	<p>Extreme Heat Events</p> <p>Measure Flood-6: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable</p>
Safety	SA-36. The County shall require that high intensity land uses proposed in areas highly susceptible to multiple hazards, such as the Delta, provide mitigation measures that include emergency evacuation routes. Consideration shall be given to the need for additional roads, particularly in the Delta, that may serve as evacuation routes. The County Regional Emergency Operations Office has a study of evacuation routes for various levee breach scenarios for reaches of the Sacramento River north of Freeport and for the American River.	<p>Measure Fire-04: Coordinate and Improve Emergency Preparedness Systems</p> <p>Measure Flood-4: Coordinate with Federal, State, and Local Agencies to Improve Emergency Evacuation and Supply Transportation Routes</p>
Safety	SA-37. The County shall continue to maintain its response to flood emergencies by maintaining and updating the following: Flood Emergency Action Plan, to address potential flooding in levee and dam inundation areas, consistent with the California Water Code, and; Community flood evacuation and rescue maps, making them available to the public, as appropriate. (Added 2016)	<p>Measure Flood-6: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable</p>

## APPENDIX D – PUBLIC ENGAGEMENT

Local action on climate change requires active and ongoing partnerships between residents, businesses, the County, agencies, and organizations. Starting in August 2016, the County prioritized engagement and outreach throughout the CAP development process to ensure the CAP provides feasible, equitable, and implementable measures. The goals of the outreach process were to: (1) raise awareness of this CAP's development; (2) inform stakeholders and public and about the CAP; (3) gather input at the various steps of CAP development; and (4) provide opportunities to influence decision-making. The County provided CAP updates via notification lists, a dedicated project website, electronic mail notifications, and press releases.

A summary of stakeholder and public outreach events is included in Table D-1. The County hosted four public workshops at various community locations (including two disadvantaged communities) to ensure that the CAP captured the ideas and concerns of residents and businesses. Outreach media were produced to advertise community events, solicit input on the CAP, and provide general information on the CAP development process. All flyers for community events were produced in both English and Spanish. In 2020 a stakeholder group representing a wide variety of interests was formed to provide input on the CAP. Stakeholder Working Group was comprised of representatives from 350 Sacramento; Associated Builders and Contractors, Inc.; Capital Region Climate Readiness Collaborative; Community Resource Project, Inc., Environmental Council of Sacramento; Lewis Group of Companies; North State Building Industry Association; Sacramento Metropolitan Air Quality Management District; Sacramento Municipal Utility District; Sacramento Regional Builders' Exchange; and Sierra Club Mother Lode Chapter.

Stakeholders and the public shaped the strategies and measures in this CAP in several ways, from attending meetings and providing comments, sending emails and letters, and participating in stakeholder calls. Comments have ranged from suggesting ideas for GHG reduction and adaptation to highlighting especially urgent and important issues that the CAP should prioritize. Themes that emerged from the outreach focused on GHG reduction included the need to reduce water consumption, consider zero-waste goals, prioritize food recovery before composting, incentivizing electric vehicles (EVs) and rooftop solar, encouraging signups for the Sacramento Municipal Utilities District's (SMUD) Greenergy program, improve transit connectivity, target transportation improvements in disadvantaged communities, reduce sprawl, protect farmland, and prioritize measures with co-benefits. Themes that emerged from the outreach relating to adaptation and resiliency included the importance of urban forestry, considering rain barrels and greywater as strategies to address changing precipitation patterns and drought, the need to specifically assess climate impacts to the Delta such as saltwater intrusion, and the urgency of increasing wildfire risk.

Additional opportunities for public input on the Draft CAP and associated environmental documentation will be available through a 30 day review period after release of the public draft and final versions of the plan, through a public meeting scheduled through the Sacramento Environmental Commission in March 2021, and public Planning Commission and Board of Supervisors meetings anticipated for reviewing the plan in late 2021.

**Table D-1 Summary of CAP Stakeholder Meetings and Public Workshops**

Event	Date	Description
Stakeholder Meeting	August 24, 2016	Project kickoff meeting for stakeholders to understand the purpose of the CAP and CAP development process.
Public Workshop #1 and #2	November 15 and 16, 2016	Initial set of public workshops held at different locations within the County to raise awareness of the CAP and get feedback and ideas for GHG emissions reduction strategies.
Public Workshop #3 and #4	February 6 and 9, 2016	Set of public workshops held at different locations within the County to raise awareness of the CAP and get feedback and ideas for climate change adaptation and resiliency strategies.
Stakeholder Meeting	March 21, 2017	Meeting with the Sacramento Metropolitan Air Quality Management District to discuss strategies related to energy efficiency and consumption, VMT, and CH <sub>4</sub> emissions.
Board Workshop	May 24, 2017	Board of Supervisors workshop to discuss the 2015 GHG emissions inventory and forecasts and climate change vulnerability assessment.
Stakeholder Meeting	June 15, 2017	Meeting with the North State Building Industry Association.
Stakeholder Meeting	January 4, 2018	Meeting with the Sacramento Municipal Utility District.
Stakeholder Meeting	February 23, 2018	Meeting with the Delta Stewardship Council.
Stakeholder Meeting	February 27, 2018	Meeting with the Pacific Gas & Electric Company.
Stakeholder Meeting	Mach 19, 2018	Meeting with Teichert.
Stakeholder Meeting	March 21, 2018	Meeting with the Sacramento Association of Realtors.
Stakeholder Meeting	March 28, 2018	Meeting with the Sacramento Region Business Association.
Stakeholder Meeting	March 29, 2018	Meeting with the North State Building Industry Association.
Stakeholder Meeting	April 19, 2018	Meeting with the Sacramento Metropolitan Fire District.
Stakeholder Meeting	April 19, 2018	Meeting with the Environmental Justice Advisory Committee.
Stakeholder Meeting	April 26, 2018	Meeting with the Sacramento Regional Builders Exchange.
Stakeholder Meeting	April 26, 2018	Meeting with the California Sierra Club.
Stakeholder Meeting	April 30, 2018	Meeting with the Sacramento Municipal Utility District.
Stakeholder Meeting	May 1, 2018	Meeting with the Sacramento Association of Realtors.
Stakeholder Meeting	May 3, 2018	Meeting with the Sacramento Electric Vehicle Association.
Stakeholder Meeting	May 8, 2018	Meeting with the Capital Region Climate Readiness Collaborative.
Stakeholder Meeting	May 9, 2018	Meeting with the Sacramento Sierra Club.
Stakeholder Meeting	May 17, 2018	Meeting with 350 Sacramento.
Stakeholder Meeting	May 22, 2018	Meeting with the Environmental Council of Sacramento.
Stakeholder Meeting	May 22, 2018	Meeting with the Capital Region Climate Readiness Collaborative.
Stakeholder Meeting	August 16, 2018	Meeting with the Sacramento Sierra Club.
Stakeholder Meeting	October 29, 2018	Meeting with 350 Sacramento.
Stakeholder Meeting	December 3, 2018	Presentation to the American River College class.
Stakeholder Meeting	August 12, 2020	Meeting with Stakeholder Working Group <sup>1</sup>
Stakeholder Meeting	August 19, 2020	Meeting with Stakeholder Working Group
Stakeholder Meeting	November 19, 2020	Meeting with Stakeholder Working Group

Source: Ascent Environmental 2021.

## APPENDIX E – GHG EMISSIONS INVENTORY AND FORECAST

This appendix describes the GHG emissions inventories and target setting for the CAP.

### 1.1 COMMUNITY AND GOVERNMENT OPERATIONS GHG INVENTORIES

An emissions inventory provides a snapshot of the major sources of emissions in a single year, while also providing a baseline from which emission trends are projected. The inventory and forecasts are used to develop reduction targets consistent with State mandates that inform the GHG reduction strategies and measures. Inventories can also be updated periodically to track progress on GHG reductions compared to baselines.

In anticipation of preparing a CAP, the County updated its GHG emissions inventories for community and government operations (also described as “internal” operations). The details of this document were published to the County’s website<sup>1</sup> and served as the baseline for the CAP. A baseline year of 2015 was selected, based on the data available at the time of preparation. The baseline inventories provide detailed accounting of the sources and quantities of GHG emissions generated from activities occurring in the unincorporated County.

The 2015 community GHG emissions inventory is summarized below in Table E-1 and shown in Figure E-1. The total 2015 emissions from all sectors in the unincorporated County inventory were 4,853,647 MTCO<sub>2e</sub>.

**Table E-1 Sacramento County Community GHG Emissions Inventory - 2015**

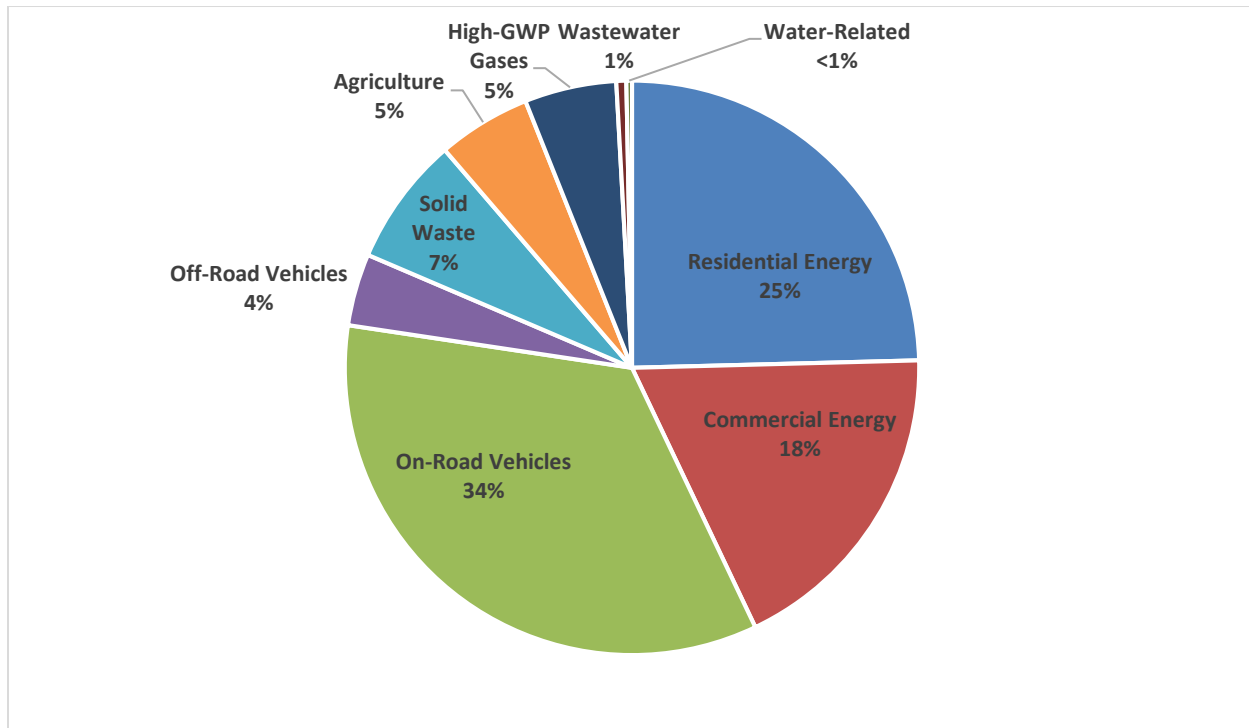
Sector	2015 GHG Emissions (MTCO <sub>2e</sub> /year)
Residential Energy	1,193,311
Commercial Energy	890,603
On-Road Vehicles	1,671,596
Off-Road Vehicles	196,769
Solid Waste	352,909
Agriculture	254,899
High-GWP Gases	251,085
Wastewater	27,253
Water-Related	15,222
<b>Total</b>	<b>4,853,647</b>

MTCO<sub>2e</sub> = metric tons of carbon dioxide equivalents, GHG = greenhouse gas, GWP = global warming potential.

Source: Ascent Environmental 2021.

<sup>1</sup> [https://planning.saccounty.net/PlansandProjects/In-Progress/Documents/Climate%20Action%20Plan/2015%20Greenhouse%20Gas%20Emissions%20Inventory%20and%20Forecasts\\_Rev.pdf](https://planning.saccounty.net/PlansandProjects/In-Progress/Documents/Climate%20Action%20Plan/2015%20Greenhouse%20Gas%20Emissions%20Inventory%20and%20Forecasts_Rev.pdf)

**Figure E-1 Sacramento County Community GHG Emissions - 2015**



Source: Ascent Environmental 2021.

The 2015 government operation GHG emissions inventory is summarized below in Table E-2 and shown in Figure E-2. The total 2015 emissions from all sectors in the County’s operations inventory were 123,397 MTCO<sub>2e</sub>.

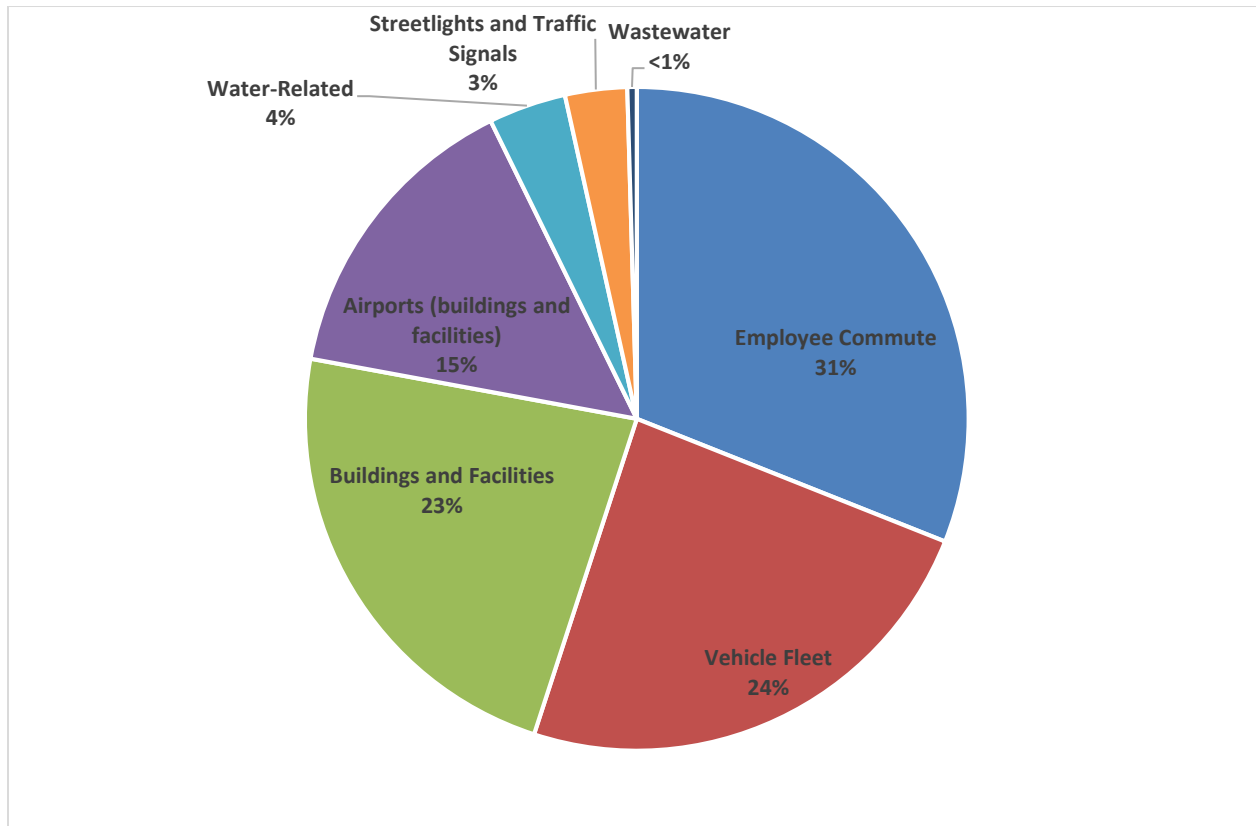
**Table E-2 Sacramento County Government Operations GHG Emissions Inventory - 2015**

Sector	2015 GHG Emissions (MTCO <sub>2e</sub> /year)
Employee Commute	38,290
Vehicle Fleet	29,591
Buildings and Facilities	28,247
Airports (buildings and facilities)	18,310
Water-Related	4,665
Streetlights and Traffic Signals	3,729
Wastewater	565
<b>Total</b>	<b>123,397</b>

Notes: Total may not add due to rounding. MTCO<sub>2e</sub> = metric tons of carbon dioxide equivalents, GHG = greenhouse gas.

Source: Ascent Environmental 2021.

**Figure E-2 Sacramento County Government Operations GHG Emissions Inventory - 2015**



Source: Ascent Environmental 2021

## 1.2 FORECASTS

GHG emissions forecasts provide an estimate of future GHG levels based on a continuation of current trends in activity, population and job growth, and relevant regulatory actions by federal, state, and regional agencies that have been adopted. Emissions forecasts provide insight into the scale of local reductions needed to achieve GHG emission reduction targets. Emissions forecasts were prepared through 2030 for both the 2015 community and government operations emissions inventories. This forecast year was selected because it is consistent with the horizon year of the Sacramento County General Plan and the State’s GHG reduction target year established by State law under Senate Bill (SB) 32. The adjusted BAU forecast accounts for a variety of approved federal, State, and regional legislative actions that will further reduce BAU emissions from the County, as shown in Table 2 of the CAP.

A comparison of the 2015 community baseline GHG emissions and the 2030 adjusted BAU forecast is shown in Table E-3. A comparison of the 2015 government operations baseline GHG emissions and the 2030 adjusted BAU forecast is shown in Table E-4. Based on the projections, community GHG emissions would be 16 percent below 2015 levels by 2030 and government operations emissions with legislative actions applied would be 12 percent below 2015 levels by 2030.



**Table E-3 Comparison of Community Emissions Inventory Baseline and Adjusted BAU Forecast.**

Sector	2015 GHG Emissions	2030 Adjusted BAU Forecast
Residential Energy	1,193,311	500,099
Commercial Energy	890,603	244,903
On-Road Vehicles	1,671,596	1,468,071
Off-Road Vehicles	196,769	253,857
Solid Waste	352,909	280,694
Agriculture	254,899	193,373
High-GWP Gases	251,085	245,175
Wastewater	27,253	17,139
Water-Related	15,222	0
<b>Total</b>	<b>4,853,647</b>	<b>3,202,311</b>
<b>Percent change from 2015 (%)</b>	<b>-</b>	<b>-16%</b>

Notes: Total may not add due to rounding. BAU = business-as-usual, MTCO<sub>2e</sub> = metric tons of carbon dioxide equivalents, GHG = greenhouse gas, GWP = global warming potential.

Source: Ascent Environmental 2021.

**Table E-4 Comparison of Government Operations GHG Inventory Baseline and Adjusted BAU Forecast**

Sector	2015 GHG Emissions	2030 Adjusted BAU Forecast
Employee Commute	38,290	31,818
Vehicle Fleet	29,591	30,808
Buildings and Facilities	28,247	23,736
Airports (buildings and facilities)	18,310	15,920
Water-Related	4,665	3,498
Streetlights and Traffic Signals	3,729	2,796
Wastewater	565	597
<b>Total</b>	<b>123,397</b>	<b>109,172</b>
<b>Percent change from 2015 (%)</b>	<b>-</b>	<b>-12%</b>

Notes: Total may not add due to rounding. BAU = business-as-usual, MTCO<sub>2e</sub> = metric tons of carbon dioxide equivalents, GHG = greenhouse gas.

Source: Ascent Environmental 2021.

## 1.3 GHG REDUCTION TARGETS

As directed in the legislation SB 32, described in Appendix A, the State aims to reduce annual GHG emissions to 40 percent below 1990 levels by 2030. The County aims to, at a minimum, reduce its emissions in proportion to the State's goals. GHG reduction targets were developed for both community and government operations emissions.

### 1.3.1 Community Targets

A proportional per capita target for the CAP was developed that would be achieved in 2030 consistent with the State's goal. This is in alignment with the State's recommended per capita target of 6 MTCO<sub>2e</sub> by 2030, adopted by the California Air Resources Board (CARB) in California's 2017 Scoping Plan (CARB 2017). Applying the 2017 Scoping Plan's per capita target specifically to the sectors included in County's GHG emissions inventory results in emissions of 4.8 MTCO<sub>2e</sub> per capita by 2030, or 3,205,398 MTCO<sub>2e</sub>, as shown in Table E-5. Comparing this figure to the community 2030 adjusted BAU forecast of 3,202,311 MTCO<sub>2e</sub>, shows that it is 3,088 MT CO<sub>2e</sub> under. This means the County is on track to have GHG emissions lower than a target aligned with the 2017 Scoping Plan, without the addition of GHG mitigating strategies and measures contained in a CAP.

One policy that will have a major effect on the reduction of local GHG emissions is the Sacramento Municipal Utility District's (SMUD's) adoption of a climate emergency resolution which aims to provide carbon-free electricity to all customers by 2030. This commitment is backed by a 2030 SMUD Zero Carbon Plan scheduled for publication in March 2021, which will explain the specific actions the agency will achieve to meet this goal<sup>2</sup>. As the County's primary provider of electricity to residential and commercial customers, this change will eliminate GHG emissions associated with electricity consumption from new and existing buildings in the County by 2030. In addition, the availability of a carbon-free electricity sources will reduce emissions in water and wastewater sectors because electricity consumption for processing, treating, and conveying water is the main contributor to GHG emissions in this sector. The on-road transportation sector will also experience a decrease in emissions because of eliminated emissions associated with the charging of electric vehicles. The overall effect of SMUD's Zero Carbon Plan will be a reduction of 852,975 MT CO<sub>2e</sub> from community GHG emissions by 2030. However, should the SMUD Zero Carbon Plan fail to be adopted or not meet it is intended target, the County can still meet a 2030 target on track with the State target, through the implementation of quantified CAP measures described in Section 2 of the CAP.

**Table E-5 Sacramento County Community GHG Emissions, State Reduction Target**

Source	2015	2030
Baseline Emissions and Legislative-Adjusted BAU Forecast (MTCO <sub>2e</sub> )	4,817,567	3,202,311
Population	576,007	668,726
Adjusted State Target Per Capita Emissions (MTCO <sub>2e</sub> / per person)	N/A	4.8
Per Capita Annual Emissions aligned with State Target (MTCO <sub>2e</sub> )	N/A	3,205,398
Per Capita GHG Emissions with Legislative Reductions (MTCO <sub>2e</sub> / per person)	N/A	4.8
Reduction needed to meet Target (MTCO <sub>2e</sub> )	N/A	-3,088

Notes: Negative values indicate a surplus in GHG reductions. MTCO<sub>2e</sub> = metric tons of carbon dioxide equivalent; N/A = not applicable; BAU = Business-As-Usual; GHG = greenhouse gases.

Source: Ascent Environmental 2020.

<sup>2</sup> <https://www.smud.org/en/Corporate/Environmental-Leadership/2030-Clean-Energy-Vision/Zero-Carbon-Frequently-Asked-Questions>

While the County is already on track to meet the 2030 reduction target aligned with the 2017 Scoping Plan, the GHG reduction measures proposed in the CAP will aligning with the State’s target to achieve further progress on reducing GHG emissions beyond the 2030 target. Although for the purposes for CEQA streamlining and local climate action planning there is no current requirement to go above and beyond the 2030 target, the choice to set a more stringent target acknowledges the latest scientific evidence available that accelerated timelines for GHG reduction are needed to avoid the most catastrophic effects of climate change. It also takes into consideration the State’s longer-term state goals for GHG reduction by 2050 and carbon neutrality by 2045 under EO’s S-3-05 and B-30-15. Consistency with the latest scientific research and long-term plans are important factors to consider according to case law pertaining to CAPs, particularly the 2017 California Supreme Court decision *Cleveland National Forest Foundation v. San Diego Association of Governments (SANDAG)*. Setting a more aggressive target will also allow the County to get started on programs that could continue beyond a 2030 horizon year and inform future projects, programs, and plan updates. Thus, the County has chosen a more stringent per capita target of 4.0 MT CO<sub>2</sub>e per capita. Based on the 4.0 MT CO<sub>2</sub>e per capita limit, the County’s 2030 GHG emissions target is 2,674,904 MTCO<sub>2</sub>e, as shown in Table 2-6 and Figure 2-3. Legislative actions would account for a large proportion of the reductions needed to achieve this goal; however, the County would need to implement additional actions to achieve further reductions. This additional reduction needed at the local level to meet the reduction targets for each year is referred to as the “local emissions gap.” To close this gap, the County would need to implement local actions that would result in an additional reduction of approximately 527,407 MTCO<sub>2</sub>e in 2030.

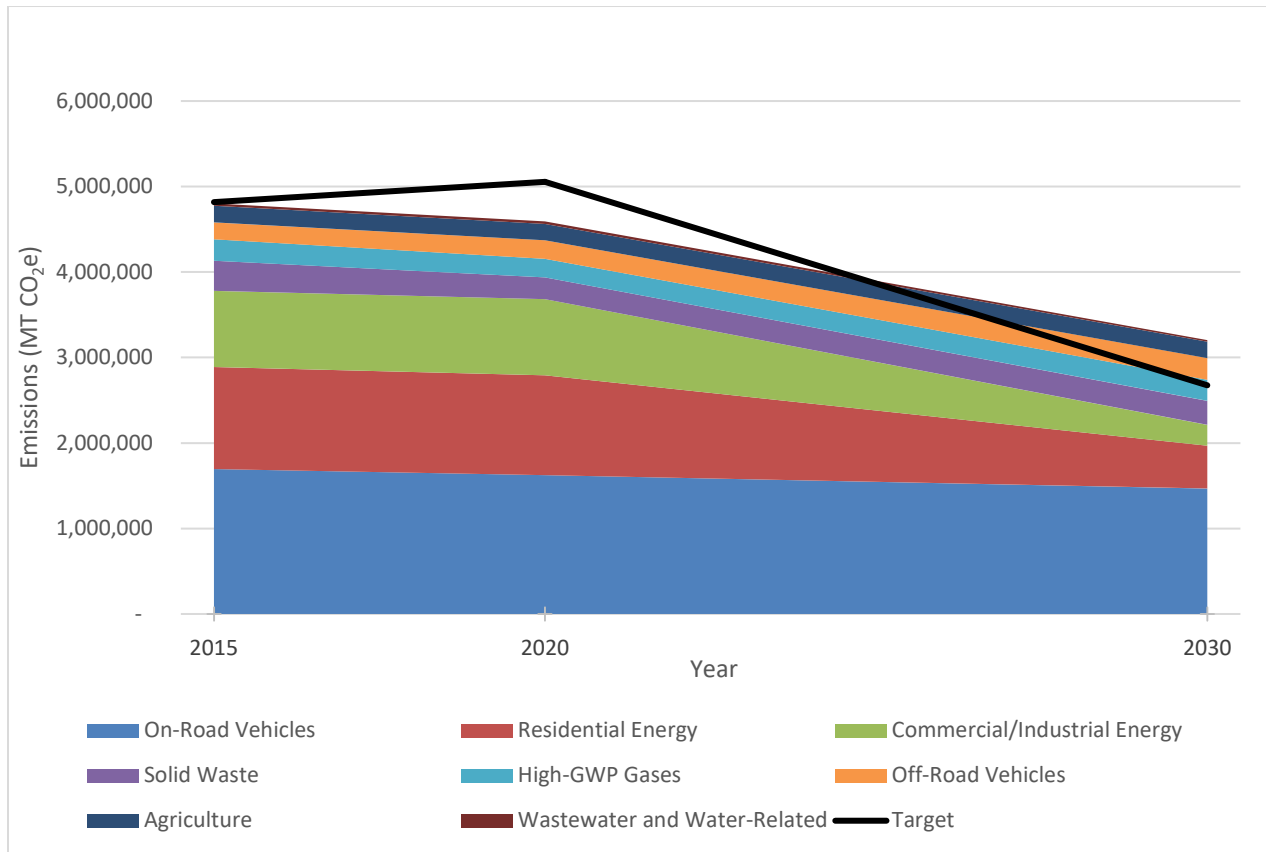
**Table 2-6 Sacramento County GHG Emissions, Proposed Reduction Target**

Source	2015	2030
Baseline Emissions and Legislative-Adjusted BAU Forecast (MTCO <sub>2</sub> e)	4,817,567	3,202,311
Population	576,007	668,726
Proposed Local Target Per Capita Emissions (MTCO <sub>2</sub> e)	N/A	4.0
Target Annual Emissions (MTCO <sub>2</sub> e)	N/A	2,674,904
Reduction needed to meet Target (MTCO <sub>2</sub> e)	N/A	527,407

Notes: Negative values indicate a surplus in GHG reductions. MTCO<sub>2</sub>e = metric tons of carbon dioxide equivalent; N/A = not applicable; BAU = Business-As-Usual; GHG = greenhouse gases.

Source: Ascent Environmental 2021.

**Figure 2-3 Sacramento County GHG Proposed Reduction Target**



Source: Ascent Environmental 2021.

### 1.3.2 Government Operations Targets

Because the County’s 1990 emissions levels for internal operations were not estimated, a proportional target for the CAP was developed to compare with the estimated 2015 emissions inventory. To determine the reduction needed from 2015 emissions levels that would be equivalent to the State’s targeted reduction from 1990 levels, the State’s GHG inventories for 1990 and 2015 were compared. According to the inventories from CARB, the State emitted approximately 431 million MTCO<sub>2</sub>e in 1990 and 440 million MTCO<sub>2</sub>e in 2015, an increase of 2 percent over 1990 levels. Consequently, to reach 40 percent below 1990 levels, 2015 levels would have to be reduced by 40 percent. Thus, the County’s 2030 government operations GHG emissions target is 73,348 MTCO<sub>2</sub>e, as shown in Table 2-7.

**Table 2-7 Sacramento County Government Operations GHG Emissions Reduction Targets**

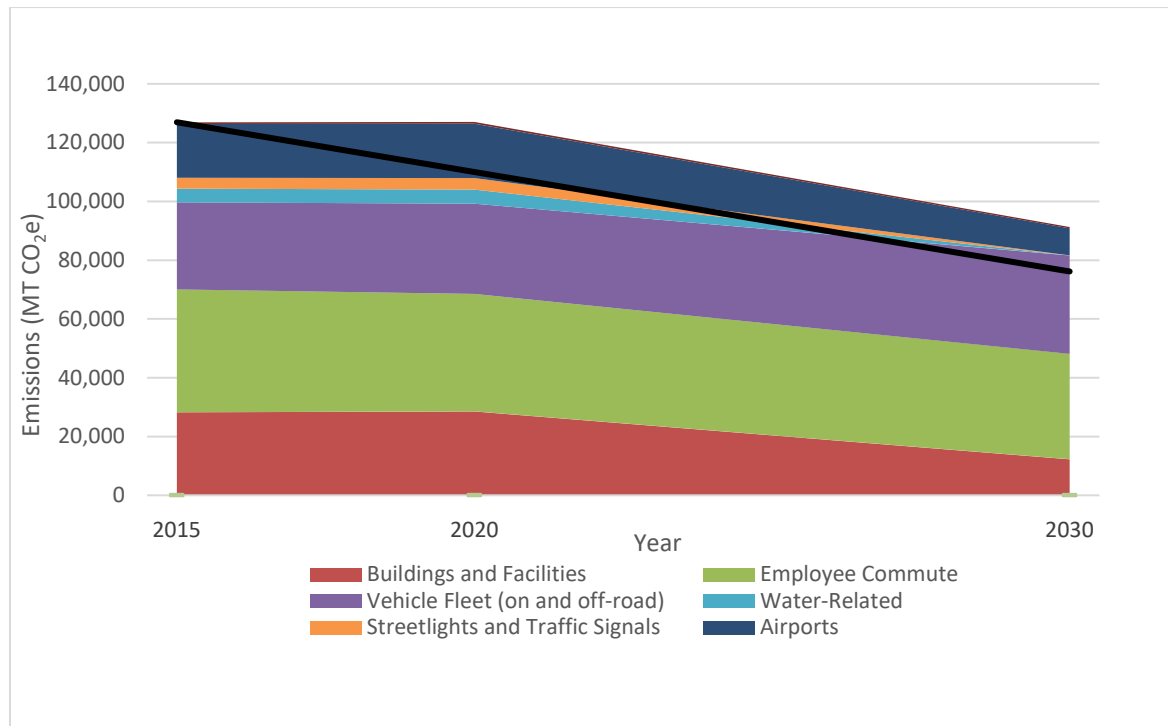
Source	2015	2030
Baseline Emissions and Legislative-Adjusted BAU Forecast (MTCO <sub>2</sub> e)	122,247	109,172
Target Percent Reduction below Baseline (%)	N/A	40
Target Annual Emissions (MTCO <sub>2</sub> e)	N/A	73,348
Reduction needed to meet Target (MTCO <sub>2</sub> e)	N/A	35,824

Notes: MTCO<sub>2</sub>e = metric tons of carbon dioxide equivalent; N/A = not applicable; BAU = Business-As-Usual; GHG = greenhouse gases.

Source: Ascent Environmental 2021.

The County would need to reduce annual emissions by 35,824 MTCO<sub>2</sub>e in 2030, beyond the reductions provided by legislative actions at the federal, state, and regional levels. This gap in GHG reductions needed is shown in Figure 2-4 below.

**Figure 2-4 Sacramento County Government Operations Legislative-Adjusted BAU GHG Forecast and Reduction Targets**



Source: Ascent Environmental 2021

## APPENDIX F: MEASURES CONSIDERED BUT ELIMINATED FROM THE CLIMATE ACTION PLAN

Sacramento County (County) carefully considered a wide variety of potential greenhouse gas (GHG) reduction measures in the process of developing the Climate Action Plan (CAP). These measures were evaluated to determine whether they could be feasibly implemented by the County and would further the goals of the CAP. These include measures identified by the team, as well as suggestions provided by the public.

The following discussion identifies the measures by general topic area and provides a brief explanation of why the measures were eliminated from further consideration in the CAP.

### **MEASURE: SMUD GREENERGY - RESIDENTIAL**

Encourage residential users to enroll in the Greenergy program, by providing a rebate of \$72 to residents to offset the first year of enrollment in the program. To qualify, residents will be required to complete a form and submit one year of utility bills to the County to validate enrollment in the program.

#### **Reasons for Dismissal**

This measure lacks an identified funding source and would require development of a County program to administer the rebate and further develop the requirements and restrictions. This measure is also specific to a program that SMUD could change or suspend, at their discretion. Further, the Greenergy program will be obsolete by 2030 with SMUD's carbon neutral targets.

### **MEASURE: SMUD GREENERGY - COMMERCIAL**

Encourage commercial users to enroll in the Greenergy program or the SMUD Solar Shares Program to obtain 100 percent of their electricity use from renewable energy sources. To encourage this participation the County will support SMUD with marketing this program. Additionally, the county can provide information to SMUD about locations where solar development may be preferred and provide outreach to businesses about opportunities to develop solar on empty lots, parking lots and on building rooftops.

#### **Reasons for Dismissal**

Identification of preferable locations for solar development should occur in conjunction with an update of the Energy Element as was called for in the GP and its EIR in 2011. This measure is also specific to a program that SMUD could change or suspend, at their discretion. Further, the Greenergy program will be obsolete by 2030 with SMUD's carbon neutral targets.

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## **MEASURE: REQUIRE ALL ELECTRIC CONSTRUCTION FOR OTHER BUILDING TYPES**

Establish targets for when commercial and high-rise residential buildings should be required to go all electric. This could be tied to CEC cost-effectiveness determinations. A phase-in approach like this, linked to future CEC actions, provides more guidance for public and private actors looking to move development forward under the Plan, and provides enough specificity to determine when an action or ordinance is not in compliance with the Plan.

### **Reasons for Dismissal**

Cost effectiveness for reach all electric buildings has not been broadly demonstrated for all commercial building types. Precedents for local government ordinances to “ban” natural gas in commercial buildings contain language that allows exemptions based on technological, economic, and political factors. In addition, this measure is duplicative of Measure GHG-05.

## **MEASURE: ELECTRIC SCHOOL BUSES**

The County will work with regional partners, such as the Board of Education, Sacramento Regional Transit District (RT), SMUD, SACOG, the SMAQMD, and local school districts, to find initial startup and continual operating funding for electric-powered school buses.

### **Reasons for Dismissal**

The County’s Office of Education is focused on curriculum development and training. School districts have greater discretion regarding electrification of school buses. This measure was dismissed because it was identified as undesirably ambiguous, with unspecified enforcement and schedule.

## **MEASURE: PARK-AND-RIDE LOTS**

The County will work with cities, SACOG, and neighboring regions to increase presence of park-and-ride facilities near residential centers, in order to increase ridesharing.

### **Reasons for Dismissal**

There is a lack of evidence that there is a deficit of parking near transit hubs, which could limit the effectiveness of this measure. Moreover, park-and-ride lots may be in conflict with emerging mobility technology and other CAP policies focused on reducing parking. The measure is also depended on the presence of functional transit near established residential areas.

## **MEASURE: IMPROVE BUS INFRASTRUCTURE**

Install bus-only lanes and signal prioritization along major thoroughfares, and work with transit agencies and neighboring jurisdictions to plan and install full bus rapid transit infrastructure along priority corridors, as appropriate.

### **Reasons for Dismissal**

Public bus fleets fall under the jurisdiction of Sacramento Regional Transit, not the County.

## **MEASURE: PUBLIC TRANSPORTATION FOR TOURISTS**

Collaborate with the Sacramento Transit Authority, Sacramento Regional Transit District, AMTRAK, and the Federal Railroad Administration to bring tourists to, from and within Sacramento on public transportation.

### **Reasons for Dismissal**

Connection to GHG reduction cannot be demonstrated. Unclear which County destinations would draw consistent tourism.

## **MEASURE: LIMIT REFRIGERANTS IN STATIONARY AIR CONDITIONING WITH A GLOBAL WARMING POTENTIAL GREATER THAN 750**

Support implementation of the State's regulation regarding refrigerants with global warming potential (GWP) values over 750.

### **Reasons for Dismissal**

New State regulations approved in December 2020 cover the intent of this measure. This measure was dismissed from further evaluation because it would not result in GHG reductions beyond levels that compliance with State regulation would otherwise achieve.

## **MEASURE: DROUGHT TOLERANT LANDSCAPING**

The County will coordinate with water districts to develop County-specific incentives for drought-tolerant landscaping in new and existing residential developments.

### **Reasons for Dismissal**

This measure unnecessarily incentivizes compliance with established State guidance for drought tolerant landscaping in new developments and extends the incentive to existing development. The County has limited ability to implement and track conversion of landscaping in existing development.



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## MEASURE: EXISTING STRUCTURE REUSE

The County will encourage the retention of existing structures and promote their adaptive reuse and renovation with green building technologies.

### Reasons for Dismissal

This measure was dismissed because it was identified as undesirably ambiguous, with unspecified priorities for preservation. Further, the measure has limited GHG reduction potential and preservation of these structures is already covered by historic preservation regulations.

## MEASURE: REDUCE URBAN HEAT ISLAND EFFECT

The County will reduce urban heat island effects through the following actions:

- ▶ Encourage solar parking canopies to provide shade in urban areas.
- ▶ Amend the Zoning Code to include a more robust shade requirement.
- ▶ Conduct parking lot shade enforcement through site inspection to ensure that 50 percent shading is achieved by 15 years (Zoning Code section 5.2.4.C).
- ▶ Work with business owners and residents to monitor and ensure landscaping and shading objectives are being met.

### Reasons for Dismissal

This measure was dismissed because it was identified as undesirably ambiguous and duplicative of established County programs, including the zoning code and design review process.

## MEASURE: EXPEDITE, REDUCE, AND EXEMPT PERMITS

The County will expedite the permit process, reduce or waive fees, or exempt permits associated with water conservation installations in existing facilities.

### Reasons for Dismissal

This measure was dismissed because permits are required where an underlying public health or safety concern creates a nexus for County oversight. It would not be appropriate to exempt a permit to incentivize a desired outcome. Additionally, fees are in place to recuperate costs of implementation. A separate program would be necessary to identify and procure funding to offset the cost of fee reductions that would be applied to permits that improve water conservation.

## **MEASURE: STREAMLINE PERMITTING FOR ELECTRIFICATION OF EXISTING RESIDENTIAL AND COMMERCIAL BUILDINGS**

The County shall review its existing permitting processes for residential building owners seeking to replace gas home appliances with electric appliances, as well as capping gas meters and modify as needed to reduce complexity, cost, and processing time for any required permits.

### **Reasons for Dismissal**

This measure was dismissed because permits are required where an underlying public health or safety concern creates a nexus for County oversight. It would not be appropriate to exempt a permit to incentivize a desired outcome. Additionally, fees are in place to recuperate costs of implementation.

## **MEASURE: RIVER-FRIENDLY LANDSCAPING**

The County will collaborate with watershed organizations, school districts and others to seek funding to construct river-friendly community demonstration gardens throughout the Sacramento County Water Agency (SCWA) service area.

### **Reasons for Dismissal**

This measure was dismissed because there is not a clear connection to substantial GHG reduction.

## **MEASURE: RAIN CAPTURE**

The County will promote the use of rain barrels and rain gardens, which allow for capture of rainwater for reuse in landscaping.

### **Reasons for Dismissal**

This measure was dismissed because the GHG reductions could not be substantiated. Further, other County departments already have similar programs. The County has already published guidance on this and included this in the municipal code.

## **MEASURE: LOW IMPACT DEVELOPMENT**

The County will develop and adopt low impact development (LID) standards, policies, and update codes and ordinances to require LID for new development and redevelopment priority projects to reduce stormwater runoff.

### **Reasons for Dismissal**

This is a requirement of compliance with the 2018 Stormwater Quality Design Manual. This measure is redundant and would not result in additional GHG reductions.

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## MEASURE: WATER CONSERVATION REGULATIONS

The County will amend Section 5.2.4 of the Zoning Code to comply with the State MWELo to ensure new development increases water conservation, as is stated in General Plan Policy CO-16.

### Reasons for Dismissal

The County operates under, and is required to enforce, the MWELo anyway as it is now part of CALGreen. This measure is redundant and would not result in additional GHG reductions.

## MEASURE: ELECTRIFICATION OF EXISTING BUILDINGS

By 2021, the County will develop policies or incentive programs in partnership with utilities, nonprofits, and the private sector, estimated to result in 25 percent of existing residential and small commercial buildings transitioning to all-electric by 2030.

### Reasons for Dismissal

This measure is similar to two measures already included in the CAP. Through EFFICIENCY AND ELECTRIFICATION OF EXISTING RESIDENTIAL BUILDINGS, the County will assist local utilities with increasing participation in residential retrofit programs to achieve a reduction in energy consumption, with a 2030 participation goal of 15 percent for outreach and monitoring program and 10 percent for energy efficiency upgrades. Through ENERGY EFFICIENCY AND ELECTRIFICATION OF EXISTING NONRESIDENTIAL BUILDINGS the County will develop a program aimed at assisting local utilities with implementing commercial energy efficiency and electrification programs to achieve reductions in energy consumption with the goal of 10 percent of existing businesses participate in outreach and monitoring program by 2030. The higher 25 percent retrofit goal suggested by a reviewer was not carried forward due to concerns with feasibility.

## MEASURE: SUSTAINABLE LAND USE STRATEGY

Support infill growth that is consistent with the regional Sustainable Communities Strategy to ensure: 90 percent of the cities' growth is in the established and center/corridor communities and is 90 percent small-lot and attached homes by 2040.

### Reasons for Dismissal

The County is a member of SACOG and is already participating the Sustainable Community Strategy. A CAP measure reinforcing the strategy is unnecessary and would not result in additional GHG reductions.

## **MEASURE: ENCOURAGE INFILL DEVELOPMENT IN TRANSIT PRIORITY AREAS, DESIGNATED-GREEN ZONES, AND IN THE COUNTY’S COMMERCIAL CORRIDORS**

Between now and 2030, the County will focus its limited development resources on infill housing and mixed-use development in designated Commercial Corridors, transit-priority areas, and Green Means Go zones. This development is broadly characterized as three- to ten-story housing and mixed-use structures in transit-served areas.

### **Reasons for Dismissal**

Not clear what “limiting development resources” entails. County staff reviews development proposals, but the resources (e.g. capital and labor) to develop projects typical comes from private entities. Limitations on types of development could inhibit the County’s ability to meet housing needs identified in the 2030 General Plan. The County has already adopted a resolution identifying Green Zones in support of Green Means Go.

## **MEASURE: INCREASE THE NUMBER OF RESIDENTS NEAR PARKS AND OPEN SPACE**

Increase to 65 percent the proportion of residents within half a mile of parks and open space.

### **Reasons for Dismissal**

This measure was dismissed from further analysis due to concerns with the feasibility of creating new parks and open areas within developed communities.

## **MEASURE JOBS HOUSING BALANCE**

The County will encourage a balance between job type, the workforce, and housing development to reduce the negative impacts of long commutes and provide a range of employment opportunities for all county residents through Policies ED-3 and ED-8 of the General Plan Economic Development Element and associated implementation measures.

### **Reasons for Dismissal**

This measure would encourage a jobs to housing balance through implementation of existing general plan policies related to sustainable development patterns and planning for mixed land uses in new growth areas. This measure was dismissed from further consideration due to concerns about necessity and feasibility in light of the State’s goal to streamline housing development.

## **MEASURE: CIVIC LAB**

The County will apply to participate in SACOG's annual Civic Lab to tackle issues affecting land use and transportation.

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### Reasons for Dismissal

This measure was dismissed from further consideration due to concerns about efficacy and the GHG reduction achieved for the investment.

## **MEASURE: GREEN JOB TRAINING**

The County will support the efforts of local colleges, universities, and community-based organizations to provide green job training in disadvantaged communities.

### Reasons for Dismissal

This measure was dismissed from further consideration due to concerns about efficacy and feasibility. The County cannot, at this time, articulate what supporting green jobs training would entail.

## **MEASURE: DEVELOP MCCLELLAN AS A RESEARCH, EDUCATION, AND JOB TRAINING FACILITY**

Develop McClellan as a research, education and job training facility for low-income residents to learn skills and accept jobs in regenerative agriculture for home gardens and commercial enterprises, solar development and installation services, hydroponic food production, tree planting for food and carbon sequestration, green construction, staffing and running resiliency hubs for emergency response including extreme heat, flooding, wildfires and poor air quality, food or water scarcity.

### Reasons for Dismissal

This measure was dismissed from further consideration due to feasibility, cost, and anticipated GHG reductions. In addition, a majority of McClellan is under private ownership.

## **MEASURE: RENEWABLE ENERGY DEVELOPMENT CENTER**

Partner with universities, community colleges and businesses to become a renewable energy development center that can consult to other communities locally and internationally. Develop expertise in green construction and green chemistry similarly that produce local jobs and bring revenue into Sacramento County for consulting services supplied outside of the County.

### Reasons for Dismissal

This measure was dismissed from further consideration due to feasibility, cost, and anticipated GHG reduction.

## **MEASURE: INNOVATION CENTER AT MATHER AIRFIELD**

Assess and develop opportunities for Mather Airfield to become an innovative center for solar-powered (and other alternatives to fossil fuel energy generation) aircraft development, production and passenger flights.

### **Reasons for Dismissal**

This measure was dismissed from further consideration due to feasibility and cost.

## **MEASURE: AMERICAN RIVER PRESERVATION**

Stop all development along the American River and preserve or reclaim the natural habitat on each side of the river to a prescribed distance to draw tourists seeking peace and tranquility away from urban congestion, to improve the quality of life in Sacramento and to eliminate carbon release and sequester carbon.

### **Reasons for Dismissal**

This measure was dismissed from further consideration due to feasibility and cost. The adopted American River Parkway Plan already exists.

## **MEASURE: SOUTH SACRAMENTO HABITAT CONSERVATION PLAN**

The County will implement the SSHCP to preserve 6,351 acres of land that would otherwise be developed for urban uses.

### **Reasons for Dismissal**

This measure was dismissed because it captures the County's existing preservation commitment. Further, the preservation strategy of the SSHCP was intended to maximize the preservation of vernal pool habitat while minimizing edge effects. As a result, it may not lead to the greatest possible GHG reductions.

## **MEASURE: PRESERVE LANDS IDENTIFIED IN THE SSHCP VOLUNTARY CONSERVATION TARGETS**

Prioritize work to ensure that the blue oak woodland and associated habitats conservation goal in the northeast portion of the SSHCP Plan area laid out in the Appendix J "above and beyond" conservation" targets are realized. This will have the benefit of preserving important GHG sequestration resources while also providing protection for the only large remaining connectivity corridor to join the south and the north county in the eastern portion of the county.

### **Reasons for Dismissal**

This measure was dismissed from further consideration due to feasibility and cost.

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## **MEASURE: CONNECTED OPEN SPACE SYSTEM**

The County will ensure that new development increases connections and removes barriers to open space, and increases green and open spaces including trails, in all new communities, connecting with existing communities through Policies OS-11 and OS-12 of the General Plan Open Space Element and associated implementation measures.

### **Reasons for Dismissal**

General Plan Policies OS-11 and OS-12 currently require that the County establish trail connections and linkages within the County and across jurisdictional boundaries that are compatible with existing land uses and seek to establish greenbelts to serve as habitat corridors and community separators. This measure would not provide any enhanced potential for the County to enforce these existing requirements and was dismissed from further consideration.

## **MEASURE: ELECTRIFICATION OF AGRICULTURE**

Require 100 percent of agricultural equipment to be converted to electric and 100 percent electrification of irrigation pumps by 2030.

### **Reasons for Dismissal**

This measure was dismissed because it is not feasible for the County to mandate conversion of private equipment.

## **MEASURE: COUNTY COMPOSTING PROGRAM**

Establish a County Composting Program that incorporates the community food waste and green waste which can then provide quality compost for the community and the County's use.

### **Reasons for Dismissal**

This measure was dismissed because it is similar in intent to MEASURE GHG-02: INCREASE ORGANIC WASTE DIVERSION in the CAP, implementation of which would require the County to increase local capacity for composting and processing of organic wastes.

These GHG reduction strategies and measures would be implemented by Sacramento County to reduce emissions from internal operations.

## **MEASURE: PRODUCE ENERGY ON COUNTY PROPERTY**

Produce 3 GW of new distributed energy resources on County property in the first three years of the CAP.

### **Reasons for Dismissal**

Already covered by General Plan Policies PF-76, PF-77, and Measure GOV-BE-02.

## **MEASURE: BUY CLEAN POLICY**

The County will adopt a buy clean policy pursuant to AB 262 for the County to purchase construction materials from manufacturers that have invested in cutting their GHG emissions for all County projects.

### **Reasons for Dismissal**

This recommendation describes legislation, AB 262, that is applicable State government agencies. Measures GOV-FL-01, GOV-FL-02, GOV-FL-03, GOV-WA-03, and GOV-BE-01 will commit the county to making procurement choices for vehicle fleets and fuels, water equipment and green buildings that result in reduced GHG emissions.

## **MEASURE: ENERGY-EFFICIENT TAXIWAY LIGHTING**

The County will install and maintain LED taxiway lighting and signage during major taxiway renovations and upgrades.

### **Reasons for Dismissal**

This measure was dismissed from further consideration because it is continuation of existing practice and would not result in substantial GHG reductions.

## **MEASURE: SOLAR POWER AT SACRAMENTO INTERNATIONAL AIRPORT**

The County will continue to procure at least 30 percent of airport electricity demand from renewable energy sources.

### **Reasons for Dismissal**

This measure was dismissed from further consideration because it is continuation of existing practice and would not result in substantial GHG reductions.

## **MEASURE: EV CHARGING AT SMF**

The County will install EV chargers accessible to visitors at the Sacramento International Airport.

### **Reasons for Dismissal**

This measure was dismissed because it is not aligned with County Department of Airport planning. This type of charging is expensive to install and requires large quantities of power which may conflict with existing energy reduction goals. Further, it is difficult to identify the most appropriate target number and type of charging spots. Higher numbers of Level 1 charging are better suited for longer dwell times such as those working for a shift, or in long- and short-term parking lots where parking norms are 8 hours or more. DC Fast EV chargers are currently provided



by private entities for a fee. The State Green Building Code requires that 10 percent of the parking spaces in any new construction or alteration be EV ready. Exceeding these requirements would not yield substantial GHG reduction.

## **MEASURE: REPLACE TURF WITH PLANTS THAT ARE LOW WATER USE**

Replace turf with natives and plants that reduce water demands, not just maintaining turf more efficiently.

### **Reasons for Dismissal**

The County had adopted the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO) which contains standards for drought tolerant vegetation types. The intent of this measure is covered by CAP Measure GOV-WA-02 requires the County to evaluate irrigation practices for existing turf to achieve water savings.

## **MEASURE: ENGAGE IN RESEARCH ON THE EFFECTS OF A WARMER CLIMATE ON THE AGRICULTURAL INDUSTRY**

- ▶ Subsidize research efforts on breeding crops that are resilient to high heat and low-chill winters, shading of crops and installation of light reflectors, and reducing rates of tilling to promote soil health and combat increased temperatures as recommended by the Climate Change Consortium and CalCAN, (California Department of Food and Agriculture [CDFA] 2013; CalCAN 2011).
- ▶ Engage in research on the potential effects of a warmer climate on the agricultural industry as well as the resulting challenges and opportunities with existing organizations and groups including, but not limited to, the California Climate and Agriculture Network (CalCAN). Challenges facing the agricultural industry are loss of chill hours, increased populations of or new species of pests, and higher rates of evapotranspiration. Conversely, a warmer climate could produce opportunities for Sacramento County to grow crops that were previously unsuitable to the historical climate.

### **Reasons for Dismissal**

This measure was dismissed from further analysis due to concerns related to the County's ability to feasibly implement a measure that requires subsidizing and participating in scientific research.

## **MEASURE: MAP CRITICAL INFRASTRUCTURE IN PREVIOUSLY BURNED AREAS AND IN LOCATIONS VULNERABLE TO WILDFIRES AND UPGRADE INFRASTRUCTURE WHERE APPLICABLE**

- ▶ Map locations of communication, energy, public service, and transportation infrastructure in previously burned areas and in areas that are vulnerable to wildfires.

- ▶ In cases where existing communication, energy, public service, and transportation infrastructure are located in previously burned areas, work with providers to allocate resources to repair damaged infrastructure (e.g., replace signage and guardrails, repair roads, reconnect electrical wiring).
- ▶ In cases where existing communication, energy, public service, and transportation infrastructure are found to be vulnerable to wildfires, work with providers to bolster and/or upgrade associated infrastructure to be more resilient to wildfire damage (e.g., use of materials that are resistant to high heat levels).

### Reasons for Dismissal

This measure was dismissed from further analysis due to concerns related to the County's ability to feasibly implement a measure that requires upgrade of infrastructure that is not owned or operated by the County.

## **MEASURE: ESTABLISH AN UNDERGROUND UTILITIES PROGRAM**

- ▶ Partner with SMUD and PG&E to establish an Underground Utilities Program to underground overhead power lines in appropriate areas of the unincorporated County to increase the resiliency of the energy grid, particularly in existing communities.

### Reasons for Dismissal

This measure was dismissed from further discussion because other measures, such as enhanced above ground design and construction standards, preventative monitoring, infrastructure inspections and maintenance, may already serve the intended goal and would be more cost-effective than establishing a new undergrounding utilities program. Secondly, SMUD's System Enhancement Strategic Directive already offers undergrounding or permanent relocation of existing primary lines when feasible and determined to be in the public's interest.

## APPENDIX G: GHG REDUCTION MEASURE COST ANALYSIS

Costs and benefits can be an important consideration for communities to determine the resources needed to implement GHG reduction measures. A qualitative cost-benefit analysis is included for GHG community measures in Table G-1 and for government operations measures in Table G-2. This analysis includes a high-level assessment of the administrative costs for the County to implement the measures, considering staff time and resources needed to create policies and enforce actions associated with the measure. The total staff time and resources needed are estimated and reported using a ranking of low (\$), medium (\$\$) or high (\$\$\$), focusing on measures where information could be obtained. The analysis also describes the costs and/or benefits of these measures to the community based on a review of academic research, white papers, and articles and cites the sources used to obtain this information. Tables G-3 and G-4 provide information on SMUD energy efficiency and decarbonization incentives.

**Table G-1: Cost Analysis of Community GHG Reduction Measures**

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GHG-01	Carbon Farming	\$\$\$		
GHG-02	Urban Forestry	\$	A 25 foot tree reduces annual heating and cooling costs of a typical residence by 8 to 12 percent, producing on average a \$10 savings per household. A mature tree canopy reduces air temperatures by 5-10° F, influencing the internal temperatures of nearby buildings	<a href="https://www.naturewithin.info/Policy/EconBens-FS3.pdf">https://www.naturewithin.info/Policy/EconBens-FS3.pdf</a>
GHG-03	Urban-Rural Connections	\$		
GHG-04	Energy Efficiency and Electrification of Existing Commercial Buildings	\$\$	Retro-commissioning costs up to \$0.40 per square foot but saves around \$0.27 sq ft from 15% energy savings with a payback period of 0.7 years. Annual non-energy savings, such as extended equipment life and improved air quality are valued at approximately \$0.26 sq ft.	Rules of Thumb Energy Efficiency in Buildings, EPA, 2016 <a href="https://www.epa.gov/sites/production/files/2016-03/documents/table_rules_of_thumb.pdf">https://www.epa.gov/sites/production/files/2016-03/documents/table_rules_of_thumb.pdf</a>
GHG-05	Increase Energy Efficiency in New Commercial Buildings	\$	Incremental cost increases for bringing a medium size office building 10 percent above the 2016 code were \$51,988. The largest contributor to these costs are upgrades to higher efficiency windows. Study based on IOU utility rates in 2016 showed that CALGreen Tier 1 in Sacramento's Climate Zone 12 were cost effective in the long-term. To support a reach code this	<a href="https://efiling.energy.ca.gov/GetDocument.aspx?tn=223015-5">https://efiling.energy.ca.gov/GetDocument.aspx?tn=223015-5</a> (page 142)

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
			study would need to be recreated to consider new 2019 energy codes and SMUD utility rates.	
GHG-06	Energy Efficiency and Electrification of Existing Residential Buildings	\$\$\$	Costs for building efficiency retrofits are highly variable, but SMUD offers a wide range of rebates to offset these costs.  See Table G-3	<a href="https://www.smud.org/en/Rebates-and-Savings-Tips/Rebates-for-My-Home">https://www.smud.org/en/Rebates-and-Savings-Tips/Rebates-for-My-Home</a>
GHG-07	Eliminate Fossil Fuel Consumption in New Residential Buildings	\$\$\$	Incremental cost increases for electrifying new residential construction are \$3,081 for single family and \$3,088 per unit for multi-family. Cost savings are achieved by eliminating natural gas connections and bill reductions. These savings offset incremental costs, in the long term and lead to cost effectiveness for single-family electrification, according to a 2018 study in the city of Palo Alto.	<a href="https://cityofpaloalto.org/civicax/filebank/documents/66742">https://cityofpaloalto.org/civicax/filebank/documents/66742</a>
GHG-08	Tier 4 Final Construction Equipment	\$\$\$	Manufacturers have estimated the cost increases for Tier 4 equipment to be between 2 and 7 percent of the total purchase price of a given machine. The incremental cost to reach Tier 4f from Tier 3 is estimated to be less than \$785 for heavy duty vehicles. Off-road equipment rated at the higher end of the power range shows similar cost numbers. (ICCT 2018)	<a href="http://www.rentalmanagementmag.com/Art/tabid/232/ArticleId/18896">http://www.rentalmanagementmag.com/Art/tabid/232/ArticleId/18896</a>  <a href="https://www.theicct.org/sites/default/files/publications/Non_Road_Emission_Control_20180711.pdf">https://www.theicct.org/sites/default/files/publications/Non_Road_Emission_Control_20180711.pdf</a>
GHG-09	Electric Landscaping Equipment	\$\$	AGZA estimates for a single commercial-grade electric leaf blower, a busy contractor can expect a return on investment as early as 12 months. After that, the savings that come from eliminating gas and oil alone range from \$800 to \$1,600 per year. If you include maintenance costs, the savings become even greater. " Comparison of lawnmower types based on 10 year total cost of ownership: Gas push mower: \$725, Corded electric push mower: \$359, Cordless electric push mower: \$506	American Green Zone Alliance (AGZA) 2015, Can Electric Equipment Revolutionize Landscape Maintenance?  We Do the Math: Will an Electric Mower Trim Lawn Care Costs? <a href="https://www.wisebread.com/we-do-the-math-will-an-electric-mower-trim-lawn-care-costs">https://www.wisebread.com/we-do-the-math-will-an-electric-mower-trim-lawn-care-costs</a>

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GHG-10	Electric Vehicle Infrastructure Program	\$\$\$	<ul style="list-style-type: none"> <li>-The electric vehicle market continues to grow where public and workplace charging infrastructure is the most extensive.</li> <li>-Costs to produce a cost-effectiveness report that allows above code ordinances to be adopted.</li> <li>-Costs for EV chargers: Level 1 \$300-\$1,500 Level 2 \$400-\$6,500</li> <li>- The cities with the highest electric vehicle sales have seen the implementation of abundant, wide-ranging electric vehicle promotion programs involving parking, permitting, fleets, utilities, education, and workplace charging.</li> </ul>	<p>Pike, E. 2016 Plug-In Electric Vehicle Infrastructure Cost-Effectiveness Report - City of Oakland - <a href="https://energy-solution.com/wp-content/uploads/2016/09/PEV-Infrastructure-Cost-Effectiveness-Summary-Report-2016-07-20b.pdf">https://energy-solution.com/wp-content/uploads/2016/09/PEV-Infrastructure-Cost-Effectiveness-Summary-Report-2016-07-20b.pdf</a></p> <p><a href="https://www.nrdc.org/sites/default/files/electric-vehicle-cost-benefit-analysis_2017-09-27.pdf">https://www.nrdc.org/sites/default/files/electric-vehicle-cost-benefit-analysis_2017-09-27.pdf</a></p> <p><a href="https://www.next10.org/sites/default/files/evs-ca-grid.pdf">https://www.next10.org/sites/default/files/evs-ca-grid.pdf</a></p> <p><a href="https://luskin.ucla.edu/sites/default/files/Non-Residential%20Charging%20Stations.pdf">https://luskin.ucla.edu/sites/default/files/Non-Residential%20Charging%20Stations.pdf</a></p>
GHG-11	Reduce Vehicle Miles Traveled from New Development	\$\$\$	<ul style="list-style-type: none"> <li>-Reductions in negative externalities associated with traffic congestion.</li> <li>- Increased pedestrian activity can lead to more opportunities for walk-by or pass-by visits to retail businesses.</li> <li>-High levels of traffic congestion has a negative effect on city growth and employment growth</li> <li>-Higher density planning that reduces VMT can allow for the development of employment hubs with higher economic output across all employment sectors</li> </ul>	<p><a href="https://ncst.ucdavis.edu/research-product/economic-benefits-vehicle-miles-traveled-reducing-placemaking-synthesizing-new">https://ncst.ucdavis.edu/research-product/economic-benefits-vehicle-miles-traveled-reducing-placemaking-synthesizing-new</a></p>
GHG-12	Transportation System Management Plan	\$\$	<p>Investment in retiming traffic signals may result in a decrease in travel time from between 5% to 10% for a corridor at a small fraction of the cost of roadway widening. Benefit-to-cost ratios range from 55:1 to 75:1.</p>	<p><a href="http://www.metrolinx.com/en/regionalplanning/rtp/technical/TSM.PDF">http://www.metrolinx.com/en/regionalplanning/rtp/technical/TSM.PDF</a></p>
GHG-13	Minimum Parking Standards	\$	<p>"Minimum parking requirements bundle the cost of parking spaces into the cost of development, and thereby increase the cost of all the goods and services sold at the sites that offer free parking (Shoup 1999)</p> <p>Minimum parking requirements have been shown to decrease land values by 30 percent based on studies in two California communities.</p> <p>Parking requirements for multifamily buildings can reduce affordability. (Litman 2016)"</p>	<p>"Shoup 1999 , <a href="http://shoup.bol.ucla.edu/Trouble.pdf">http://shoup.bol.ucla.edu/Trouble.pdf</a></p> <p>Litman 2016 <a href="http://www.vtpi.org/park-hou.pdf">http://www.vtpi.org/park-hou.pdf</a>"</p>
GHG-14	Improved Transit Access	\$\$	<p>An increase in transit ridership will provide revenues for transit agencies</p>	<p><a href="http://www.dot.ca.gov/trafficops/tm/docs/Park_and_Ride_Program_Resource_Guide.pdf">http://www.dot.ca.gov/trafficops/tm/docs/Park_and_Ride_Program_Resource_Guide.pdf</a> (pg 8)</p>

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GHG-15	Improved Pedestrian Network and Facilities	\$\$	In one study, retail properties with a Walk Score® ranking of 80 were valued 54 percent higher than properties with a Walk Score® ranking of 20. Similar findings have been observed across all types of properties. A study of 15 U.S. cities found homes in more walkable neighborhoods to be worth \$4,000 to \$34,000 more than those in less walkable neighborhoods.	<a href="http://www.ipenproject.org/documents/conferences_docs/active-cities-full-report.pdf">http://www.ipenproject.org/documents/conferences_docs/active-cities-full-report.pdf</a>
GHG-16	Traffic Calming Measures	\$\$	Surveys of small businesses indicate that traffic calming measures, particularly reduced traffic speeds contribute to increased business. Calming measures encourage local residents to shop in their own neighborhoods.	<a href="https://web.archive.org/web/20200507084956/http://cedik.ca.uky.edu/files/effectsofdowntowntrafficalming.pdf">https://web.archive.org/web/20200507084956/http://cedik.ca.uky.edu/files/effectsofdowntowntrafficalming.pdf</a>
GHG-17	Improved Bicycle Network and Facilities	\$\$\$	In one U.S. city, a \$70 million investment to revitalize a river greenway stimulated \$2.5 billion in residential, commercial, retail, sports and entertainment projects along the corridor. Likewise, businesses along a trail on the Atlantic coast of the United States attributed 30 percent of their gross revenues to being located along the trail.	<a href="https://nacto.org/wp-content/uploads/2016/02/2014_Buehler-and-Hamre_Economic-Benefits-of-Capital-Bikeshare.pdf">https://nacto.org/wp-content/uploads/2016/02/2014_Buehler-and-Hamre_Economic-Benefits-of-Capital-Bikeshare.pdf</a>
GHG-18	Improve Fuel Efficiency Standards	\$\$	CAFE standards save consumers \$7,300 in fuel costs and a net savings of \$4,600 over the lifetime of a new vehicle, and \$700 annually in fuel costs, according to a consumer reports study. - Purchase of new, more fuel efficient vehicles by businesses and consumers within the county contributes to more sales tax revenues.	<a href="https://consumersunion.org/wp-content/uploads/2013/06/FuelEconomyStandards.pdf">https://consumersunion.org/wp-content/uploads/2013/06/FuelEconomyStandards.pdf</a>
GHG-19	EV Parking Code	\$	The electric vehicle market continues to grow where public and workplace charging infrastructure is the most extensive. -Costs to produce a cost-effectiveness report that allows above code ordinances to be adopted. Costs for EV chargers: Level 1 \$300-\$1,500 Level 2 \$400-\$6,500	NREL 2015 November Costs Associated With Non-Residential Electric Vehicle Supply Equipment ICCT 2016, Leading Edge of Electric Vehicle Market Development in the United States; an analysis of California Cities"
GHG-20	Safe Routes to School	\$	Reduced fuel costs, Decreased traffic congestion in neighborhoods, Decreased number of accidents and fatalities leading to reduced health care costs.	Safe Routes to School National Partnership (2012) Economic Benefits of Safe Routes to School <a href="https://www.saferoutespartnership.org/resources/webinar/economic-benefits-srts">https://www.saferoutespartnership.org/resources/webinar/economic-benefits-srts</a>
GHG-21	Update Community and Corridor Plans	\$\$	A ULI study on the fiscal impacts of TOD showed TOD developments require less funding for public services. TOD project apartments generated between \$1.13 and \$2.20 in tax and nontax revenues for their respective jurisdictions for every \$1 spent on public services for the residents and employees.	<a href="https://web.archive.org/web/20190512232554/https://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/31/2017/01/ULI_WashBalt_TODFiscalReport_Jan2017.pdf">https://web.archive.org/web/20190512232554/https://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/31/2017/01/ULI_WashBalt_TODFiscalReport_Jan2017.pdf</a>

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GHG-22	Connecting Key Destinations	\$	<p>Increased productivity from employees by avoiding commutes on congested freeways (Lewis 2000)</p> <p>Businesses connected to transit nodes have access to a larger pool of qualified labor, increasing employee retention and reducing recruitment costs.</p> <p>Costs associated with planning and designing connections. May include costs for acquiring easements and constructing new trails in urbanized settings.</p>	<p>Lewis, David, Khalid Bekka et al. Transit Benefits 2000 Working Papers: A Public Choice Policy Analysis. Federal Transit Administration Office of Policy Development, 2000.</p> <p>Center for Transit Oriented Development (2011) <a href="https://www.apta.com/resources/reportsandpublications/Documents/Economic-Impact-Public-Transportation-Investment-APTA.pdf">https://www.apta.com/resources/reportsandpublications/Documents/Economic-Impact-Public-Transportation-Investment-APTA.pdf</a></p>
GHG-23	Incentivize Infill Development	\$	<p>Higher upfront capital costs can be offset by higher sales and rental prices, and developers willing to hold properties for longer periods can take advantage of rising property values spurred by successful redevelopment projects. As infill becomes more prevalent, more lenders are developing products and services to help overcome financing challenges associated with mixed-use projects. Overall, developers are learning how to create profitable projects that meet a growing demand for housing and offices in walkable neighborhoods near transit, cultural attractions, restaurants, and other amenities.</p>	<p>Smart Growth and Economic Success <a href="https://www.epa.gov/sites/production/files/2014-06/documents/developer-infill-paper-508b.pdf">https://www.epa.gov/sites/production/files/2014-06/documents/developer-infill-paper-508b.pdf</a></p>
GHG-24	Increase Organic Waste Diversion	\$	<p>A cost benefit analysis for an organic waste diversion policy in New York State showed net benefits of \$36.50 per ton of waste for composting, and \$54.16 per ton of waste for anaerobic digestion</p>	<p><a href="https://s3.amazonaws.com/dive_static/diveimages/Benefit-Cost-Analysis-of-Potential-Food-Waste-Diversion-Legislation.pdf">https://s3.amazonaws.com/dive_static/diveimages/Benefit-Cost-Analysis-of-Potential-Food-Waste-Diversion-Legislation.pdf</a></p>
GHG-25	Electric Irrigation Pumps	\$\$\$	<p>Electric systems tend to have a longer life with fewer repair and labor expenses. (Amosson, et al. 2011)</p> <p>Electricity prices fluctuate somewhat with natural gas prices, but they tend to be more stable overall (Amosson, et al. 2011)</p>	<p>Amosson, 2011 <a href="http://amarillo.tamu.edu/files/2011/10/Irrigation-Bulletin-FINAL-B6113.pdf">http://amarillo.tamu.edu/files/2011/10/Irrigation-Bulletin-FINAL-B6113.pdf</a></p>

Source: Ascent Environmental, 2021.

**Table G-2: Cost Analysis of Community GHG Reduction Measures**

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GOV-EC-01	Employee Transportation Program	\$	Can be used to attract and retain employees. County as a large employer in the region can have an influence on achieving the benefits of community VMT reduction. May reduce the number of parking spaces needed at county facilities.	<a href="http://vtpi.org/tdmecodev.pdf">http://vtpi.org/tdmecodev.pdf</a>
GOV-EC-02	Transit Subsidy Program	\$\$	Employees can receive up to \$260 per year for commuting as pretax fringe benefit according to the National Center for Transit Research.	<a href="https://www.nctr.usf.edu/programs/clearinghouse/commutebenefits/">https://www.nctr.usf.edu/programs/clearinghouse/commutebenefits/</a>
GOV-EC-03	Employee Shuttle System	\$	County as a large employer in the region can have an influence on achieving the benefits of community VMT reduction.	
GOV-EC-04	Secure Bicycle Storage Facilities	\$\$	Bicycle lockers cost between \$1,280 to \$2,680 with an average of \$2,090 per unit.	<a href="http://www.pedbikeinfo.org/cms/downloads/Countermmeasure_Costs_Summary_Oct2013.pdf">http://www.pedbikeinfo.org/cms/downloads/Countermmeasure_Costs_Summary_Oct2013.pdf</a>
GOV-EC-05	Carpool-at-Work Incentives	\$	Some organizations use monetary prizes to encourage carpooling, but there are other, non-monetary solutions that can be offered as well including preferred parking and setting up a rideshare matching system within the organization's internal network. The county benefits from carpooling through increased productivity and reduced mileage reimbursement costs from employees that would otherwise travel in single occupant vehicles to projects.	<a href="http://www.cleanairpartnerstx.org/resources/Carpool%20Incentive%20Programs%20-%20EPA.pdf">http://www.cleanairpartnerstx.org/resources/Carpool%20Incentive%20Programs%20-%20EPA.pdf</a>
GOV-FL-01	Fleet Conversion Program	\$\$\$	Light duty electric fleet vehicles (sedans, SUVs and light trucks) are on average 87 percent more expensive than internal combustion engine equivalents when purchased new (\$23,384 vs \$43,800). However, EV's are also 4.3 times more fuel efficient when gas and electricity are converted into equivalent units. When gas and electricity costs are compared EV's are about 75 percent less expensive to fuel annually (avg. \$880 vs \$211/yr). Maintenance costs for EVs are about 35 percent less annually (avg. \$1260 vs \$819) due to less moving parts. The payback period for light duty EV's is estimated to be: Sedans = 25 years, SUVs =13 years and Light Pickups = 14 years. Lowering the initial costs of initial purchase through rebates, grants or bulk purchasing could help lower the payback period.	Calculated by Ascent using results from the City of Minneapolis' Electric Vehicle Study, Final Report October 2017 <a href="https://lms.minneapolismn.gov/Download/RCA/2361/10_Municipal%20Fleet%20Electric%20Vehicle%20Study.pdf">https://lms.minneapolismn.gov/Download/RCA/2361/10_Municipal%20Fleet%20Electric%20Vehicle%20Study.pdf</a>
GOV-FL-02	Renewable Compressed Natural Gas for On- and Off-Road Fleet	\$	Retail costs for CNG average \$2.47 per gallon (DOE). The pricing of renewable CNG is tied to the commodity prices of natural gas, plus additional premiums for production from mixed solid waste,	DOE 2018, <a href="https://www.afdc.energy.gov/uploads/publication/alternative_fuel_price_report_july_2018.pdf">https://www.afdc.energy.gov/uploads/publication/alternative_fuel_price_report_july_2018.pdf</a>



Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
			landfill, wastewater treatment, or dairy. These premiums are offset by credits for production from the CA Low Carbon Fuel Standard and EPA Renewable Fuel Standard programs to help bring the retail price to the same level as non-renewable versions.	Feasibility of Renewable Natural Gas Study UC Davis 2017 <a href="https://steps.ucdavis.edu/wp-content/uploads/2017/05/2016-UCD-ITS-RR-16-20.pdf">https://steps.ucdavis.edu/wp-content/uploads/2017/05/2016-UCD-ITS-RR-16-20.pdf</a> Waste-to-Fuel Sacramento CleanWorld Sacramento BioDigester Case Study, 2017 <a href="https://www.afdc.energy.gov/uploads/publication/waste_to_fuel.pdf">https://www.afdc.energy.gov/uploads/publication/waste_to_fuel.pdf</a>
GOV-FL-03	Renewable Diesel for On- and Off-Road Fleet	\$	Renewable diesel (also referred to as Biodiesel or B99/B100) is slightly less expensive (-\$0.18/gallon) than diesel on the west coast according to the Department of the Energy \$3.69 v \$3.87/gallon). However, B99/B100 also produces 10 percent less energy per gallon, resulting in increased fuel consumption. This can be accounted by adjusting to a price per energy equivalent. When adjusted on an energy-equivalent basis B99/B100 is slightly more expensive per gallon than diesel at \$4.06, +\$0.19/gallon	Alternative Fuels Price Report DOE, July 2018 <a href="https://www.afdc.energy.gov/uploads/publication/alternative_fuel_price_report_july_2018.pdf">https://www.afdc.energy.gov/uploads/publication/alternative_fuel_price_report_july_2018.pdf</a>
GOV-BE-01	Green Building Policy	\$\$	Costs of retrocommissioning (RCx) needed to achieve the 30 percent energy reduction can range from \$0.13 to \$0.50 per sq. ft. based on an evaluation of 14 projects in California. Implementation is ~30 percent of the cost, ~70 percent is planning and monitoring. Benefits come in the form of energy savings ranging from \$0.11 to \$.72 per sq ft.	<a href="https://www.documents.dgs.ca.gov/green/eeproj/retrocommfactsheet.doc">https://www.documents.dgs.ca.gov/green/eeproj/retrocommfactsheet.doc</a>
GOV-BE-02	Solar for County Buildings	\$\$	County has existing agreement with SMUD for solar shares. Additional solar beyond what is available through SMUD can be developed on-site. Commercial installs estimated at \$1.85 /sq ft. for commercial rooftop up to \$3.00 sq ft for parking lot solar canopies. Costs offset by on-bill credits for energy savings or through negotiated power purchase agreements.	<a href="https://www.nrel.gov/docs/fy17osti/68925.pdf">https://www.nrel.gov/docs/fy17osti/68925.pdf</a>
GOV-BE-03	Employee Green Building Training	\$	Costs for CALGreen Certification exam are \$205 per employee. CALBO Class I Tier I Memberships are \$375 per employee. Many LEED training materials are available for free through the US Green Building Council. Utility or state sponsored green building trainings are generally free of charge.	CalGreen Certification - <a href="https://www.iccsafe.org/certification-exam-catalog/#examinfo150279">https://www.iccsafe.org/certification-exam-catalog/#examinfo150279</a> CALBO - <a href="https://members.calbo.org/ap/Membership/Application/Z9pQ81r8">https://members.calbo.org/ap/Membership/Application/Z9pQ81r8</a> SMUD - <a href="https://www.cvent.com/c/calendar/ab92b1d7-0e44-">https://www.cvent.com/c/calendar/ab92b1d7-0e44-</a>

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
				4480-b830-cb3b956c29a5 LEED - <a href="https://www.usgbc.org/resources/grid/leed">https://www.usgbc.org/resources/grid/leed</a>
GOV-AR-01	Airport Fleet Replacement	\$\$\$	See Measure GOV-FL-01 and GOV-FL-02 for comments on costs and benefits for fleet conversion.	
GOV-WA-01	Water Efficiency Policy	\$\$	Cost of measures varies based on implementation strategy. Water reduction can be translated to cost savings using energy intensity factors and local utility rates.	<a href="http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5356">http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5356</a> <a href="https://www.smud.org/en/Rate-Information/Business-rates#4c57fb9f-1738-4224-993c-cc6b19e5e882-29f2a01c-7566-4ece-a674-27338339f76e">https://www.smud.org/en/Rate-Information/Business-rates#4c57fb9f-1738-4224-993c-cc6b19e5e882-29f2a01c-7566-4ece-a674-27338339f76e</a>
GOV-WA-02	Turf Landscape Irrigation Audit	\$	Water reduction can be translated to cost savings using energy intensity factors and local utility rates.	<a href="http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5356">http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5356</a> <a href="https://www.smud.org/en/Rate-Information/Business-rates#4c57fb9f-1738-4224-993c-cc6b19e5e882-29f2a01c-7566-4ece-a674-27338339f76e">https://www.smud.org/en/Rate-Information/Business-rates#4c57fb9f-1738-4224-993c-cc6b19e5e882-29f2a01c-7566-4ece-a674-27338339f76e</a>
GOV-WA-03	Water-Efficient Equipment	\$\$	Cost of measures varies based on implementation strategy. Water reduction can be translated to cost savings using energy intensity factors and local utility rates.	<a href="http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5356">http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5356</a> <a href="https://www.smud.org/en/Rate-Information/Business-rates#4c57fb9f-1738-4224-993c-cc6b19e5e882-29f2a01c-7566-4ece-a674-27338339f76e">https://www.smud.org/en/Rate-Information/Business-rates#4c57fb9f-1738-4224-993c-cc6b19e5e882-29f2a01c-7566-4ece-a674-27338339f76e</a>
GOV-ST-01	Streetlight Conversion	\$	Costs can be quantified using DOE's Streetlight Retrofit Cost Analysis tool. Costs for and LED retrofit program for the City of Los Angeles in 2013 estimated at \$407.14 per streetlight, including equipment, labor and administration. Energy savings estimated at \$53.47 per light annually. Maintenance savings estimated at \$17.85 per light annually. Payback period of 5 to 7 years.	<a href="https://www.energy.gov/eere/ssl/downloads/street-and-parking-facility-lighting-retrofit-financial-analysis-tool">https://www.energy.gov/eere/ssl/downloads/street-and-parking-facility-lighting-retrofit-financial-analysis-tool</a>  City of LA Retrofit Program <a href="https://photos.state.gov/libraries/finland/788/pdfs/LED_Presentation_Final_June_2013.pdf">https://photos.state.gov/libraries/finland/788/pdfs/LED_Presentation_Final_June_2013.pdf</a>

Source: Ascent Environmental, 2021.

**Table G-3: SMUD Residential Electrification Incentives**

Program	Total Possible Incentive	Base Incentive	HP HVAC	HPWH	Induction cooktop/range	Bonus
Single Family - New Construction	\$5,000	\$2,250	\$950	\$800	\$1,000	Battery Storage
Single Family - Existing	\$8,750	\$0	\$3,000	\$2,500	\$750	Panel & Efficiency
Multifamily - New Construction	\$1,750	\$1,250	yes	yes	\$500	x
Multifamily - Existing	\$2,500	n/a	\$1,000	\$1,000	\$500	Energy Efficiency
HP-HVAC Equipment Efficiency	\$3,000	n/a	\$3,000	n/a	n/a	Energy Efficiency
HPWH Equipment Efficiency	\$2,500	\$2,500	n/a	yes	n/a	n/a
Panel/Wiring Upgrade	\$2,500	n/a	\$500	\$500	\$500	\$1,000
Induction Energy Efficiency	\$750	\$750	n/a	n/a	yes	x

Source: SMUD, 2021.

**Table G-4: SMUD Integrated Design and Express Energy Solutions**

Measure	Total Possible Incentive
Single-zone and multi-zone mini-split inverter driven heat pumps	\$500 per ton of cooling capacity
Packaged and split system heat pumps (Commercial systems 5-20 tons are available)	\$550 per ton of cooling capacity
Variable refrigerant flow (VRF) multi-zone systems	\$550 per ton cooling capacity for single mode unit \$1,000 per ton of cooling capacity for units for units with heat recovery
Engineering and permitting support for units with supplemental heat	\$750 per project site
Electrical Infrastructure Support Panel improvements or upgraded circuits to support electric resistance heat.	\$1000 per unit
Commercial induction range	\$450 per hob
Residential-style heat pump water heater 50-80 gallon capacity	\$1,500 per unit
Commercial-style heat pump water heater 80-120 gallon capacity	\$4,000 per unit
Split-system heat pump water heater 80-120 gallon capacity	\$3,000 per unit
Other gas-to-electric heat pump space heating solutions. Complex electrification of water-source heat pumps, heat recovery and customized solutions.	Contact SMUD custoretrofit@smud.org
Performance-based approach based on energy modeling	\$100,000 incentive cap for energy efficiency \$150,000 incentive cap for electrification \$10,000 all-electric design team incentive
Custom Retrofit Program - Go-Electric, Retrocommissioning, pump energy assessment, refrigeration, process improvement, HVAC and lighting.	\$100,000 incentive cap for energy efficiency \$150,000 incentive cap for electrification \$10,000 all-electric design team incentive

Source: SMUD 2021

## APPENDIX H – GLOSSARY

**AB** – Assembly Bill

**Adaptation** - The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate harm or exploit beneficial opportunities. In natural systems, human intervention may facilitate adjustment to expected climate and its effects

**Adaptive capacity** - The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.

**APG** – Adaptation Planning Guide

**ATP** – Active Transportation Plan

**BAC** – Building Advisory Committee

**BERC** - Business Environment Resource Center

**BLM** – Bureau of Land Management

**BP&I** - Sacramento County Building Permits and Inspections

**BRI** - Business Resiliency Initiative

**CA DWR** – State of California Department of Water Resources

**CAL FIRE** - California Department of Forestry and Fire Protection

**CALBO** – California Building Officials

**CalCAN** - California Climate and Agricultural Network

**CALGreen** - California Green Building Standards Code

**CAP** – Climate Action Plan

**CEO** – County Executive Office

**CEQA** – California Environmental Quality Act

**CNG** – Compressed Natural Gas

**CO<sub>2e</sub>** – Carbon dioxide equivalents

**Commercial** – a category of development comprised of non-residential buildings that include rail, offices, warehouses, restaurants, and other business-oriented uses.

**County** – Unincorporated Sacramento County

**CRC** - Capital Region Climate Readiness Collaborate

**CRCRC** – Capital Region Climate Readiness Collaborative

**DGS** - Sacramento County Department of General Services,

**DHH** - Sacramento Department of Health and Human Services

**DOE** – Department of Energy

**DPS** – Department of Personnel Services

**DWMR** - Sacramento County Department of Waste Management and Recycling

**DWR** - Sacramento County Department of Water Resources

**ED** – Economic Development

**EO** – Executive Order

**FEMA** – Federal Emergency Management Agency

**GHG** – Greenhouse Gas

**GIS** – Geographic Information System

**GIS** - Sacramento County Geographic Information Services

**HPS** – High-pressure sodium (lighting type)

**LED** – Light emitting diode (lighting type)

**LHMP** – Local Hazard Mitigation Plan

**Multifamily** - a category of development comprised of two-, three-, or four-family dwellings, townhouses, rowhouses, individual mobile homes within a mobile home park, apartments or other multiple-family dwellings including condominiums as defined in the Sacramento County Zoning Code

**NOAA** - National Oceanic and Atmospheric

**NWL** – Natural and Working Lands

**NWS** – National Weather Service

**PER** - Sacramento County Planning & Environmental Review

**PG&E** - Pacific Gas and Electric

**PG&E** – Pacific Gas and Electric Company

**PIO** – Public Information Officer

**PV** – Photovoltaic Solar

**Regional San** - Sacramento Regional County Sanitation District

**RMP** – Resource Management Plan

**RPS** – Renewables Portfolio Standard

**RWA** – Regional Water Authority

**Sac Metro** - Sacramento Metropolitan Fire District

**SACDOT**- Sacramento County Department of Transportation

**SacOES** - Sacramento County Office of Emergency Services

**SACOG** - Sacramento Area Council of Government

**SacRT** – Sacramento Regional Transit

**SAFCA** - Sacramento Area Flood Control Agency

**SB** – Senate Bill

**SCAS** – Sacramento County Airport System

**SCWA** – Sacramento County Water Agency

**Sierra CAMP** - Sierra Climate Adaptation and Mitigation Partnership

**Single-family** – a category of development comprised of detached dwellings including primary residence mobile homes not within a mobile home park, as defined in the Sacramento County Zoning Code

**SM** - Sustainability Manager

**SMUD** - Sacramento Municipal Utilities District

**State** – State of California

**SWRCB** – State Water Resources Control Board

**TOD** – Transit Oriented Development

**TSM** – Transportation System Management

**UCACE** – US Army Corps of Engineers

**UHIE** – Urban Heat Island Effect

**USBR** – US Bureau of Reclamation

**VMT** – Vehicle Miles Traveled

**Vulnerability** - The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.