



# Chapter 7

# Sustainability

# Element





## 7.1. Introduction

### BACKGROUND AND PURPOSE

Solano County has experienced significant climate change impacts, with recent years marked by extensive wildfires near Fairfield and increasingly frequent droughts and floods. Urban resilience, which is crucial for adapting to these changes, refers to the ability of a city's individuals, communities, institutions, businesses, and systems to endure, adapt, and thrive despite chronic stresses (like high unemployment and strained infrastructure) and acute

shocks (such as wildfires, earthquakes, floods, and disease outbreaks). Achieving this resilience is a complex, multi-faceted objective addressed throughout the General Plan.

Sustainability involves creating a balance where human society coexists harmoniously with natural systems. It encompasses three main components: environmental stewardship and respect for natural resources, the enhancement of social equity through improved education, skills, and

health, and the strengthening of economic and financial prosperity. Policies promoting sustainable development also boost quality of life and public health, improve energy efficiency, reduce waste, enhance biological resources, and support other key initiatives in this General Plan. Incorporating sustainability throughout the General Plan aims to minimize the City's carbon footprint and responsibly address the environmental impacts of anticipated development and population growth.

## RELATIONSHIP TO STATE LAW

The Sustainability Element is an optional element of the General Plan not mandated by the State of California, although the document does cover required topics including water quality and supply, solid waste, and air quality. In tandem with the Health and Safety Element, the Sustainability Element addresses Fairfield's climate vulnerabilities in accordance with California Senate Bill (SB 379). Its inclusion in the General Plan demonstrates Fairfield's dedication to the long-term health and sustainability of the community and environment.

## RELATIONSHIP TO OTHER PLANNING EFFORTS

### General Plan Elements

The Sustainability Element supports the environmental sustainability aspect of urban resilience, which also involves consideration of topics such as compact land use patterns and preservation of open space, decreased vehicle miles traveled and increase of sustainable transportation use, vulnerability to natural hazards, and air quality and pollution impacts. The Sustainability Element is closely linked to the policies in other elements of the General Plan. The Land Use and Urban Design Element outlines desired land use patterns that reduce the need for single occupancy vehicles. The Circulation Element similarly addresses expanded opportunities for active transportation. The Open Space,

Conservation, and Recreation Element addresses water quality and conservation of natural resources. Similarly, the Environmental Justice Element discusses air pollution and equitable access to neighborhood resources that improve climate resilience. The Public Facilities Element discusses the City's plans for conservation and sustainability as a part of utilities systems planning, including water and waste. Finally, the Health and Safety Element addresses natural hazards that may be exacerbated by climate change. In combination with elements mentioned above, the Sustainability Element furthers several of the General Plan's Guiding Principles, including the following:

- **Guiding Principle 6:** Emphasize environmental sustainability.
- **Guiding Principle 7:** Achieve a healthy and safe community for all.

### Solano County Multi-Jurisdiction Hazard Mitigation Plan (2021)

The Solano County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) is a county-wide plan addressing emergency response and preparedness for the county and its participating jurisdictions. The plan outlines how prevalent hazards may affect the county, including risks to vulnerable assets, such as people and property. The MJHMP, last updated in 2021, requires updates every five years. A current MJHMP is necessary for jurisdictions to pursue

funding under the Hazard Mitigation Grant Program (HMGP) if a federal disaster occurs. The MJHMP also includes a detailed Climate Vulnerability Assessment (CVA) to meet SB 379 requirements. Each participating municipality, including Fairfield, has its own CVA, which examines vulnerabilities for each hazard caused or exacerbated by climate change, assessing the impact of climate change on these vulnerabilities and Fairfield's capacity to adapt.

### Climate Action Plan

Concurrent with the update of the General Plan, the City is developing a new Climate Action Plan (CAP), which supplements the policies in this Element by prescribing more specific actions and measures to reduce greenhouse gas emissions through the year 2050, consistent with State law. The CAP will be the first document of its kind for Fairfield, and will be updated every five years to maintain relevancy with evolving targets and best practices.



## 7.2. Climate Change and Greenhouse Gas Reduction

Climate change refers to the change in the average global climate that may affect wind patterns, storms, precipitation, and temperature. Greenhouse gases (GHGs) trap heat in the atmosphere, and by doing so, regulate the earth's temperature. This effect, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. GHGs are released into the earth's atmosphere through a variety of natural processes and human activities. According to the United Nations, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil, and gas, since the 1800s.

The Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change, indicates it is extremely likely that global temperatures will continue to increase in the future, raising broad concern about the effects of temperature change on the Earth's climate.<sup>1</sup> Potential risks from a warming climate include rising sea levels, intense drought and flooding conditions, changing precipitation patterns, expanding desertification, increased wildfire risks, and significant temperature swings.

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<sup>1</sup> IPCC. 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. Available: <https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/>.

The primary sources of GHG emissions in the United States, according to 2022 EPA estimates, are transportation (28 percent), electric power (25 percent), and industry (23 percent), with residential and commercial uses making up the remaining 13 percent.<sup>2</sup> As indicated in the City of Fairfield's Climate Action Plan (CAP) greenhouse gas emissions inventory baseline, on-road transportation (over 65 percent), consumption of natural gas (over 16 percent) and solid waste (nearly eight percent) represented the largest sources of City emissions in 2020.

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<sup>2</sup> EPA, 2022. Sources of Greenhouse Gas Emissions. <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>.



### 7.3. Climate Change and Adaptation

While the City and State continue to work towards GHG reduction and prevention of further effects from climate change, the City must also work to address the effects that can already be felt.

Within the Planning Area, climate change is causing an increase in extreme weather events, including extreme heat, high wind, and heavy rain, more frequent and severe droughts, and an increased risk and intensity of wildfires. While these topics are addressed in other elements, including the Health and Safety Element and the Public Facilities and Services Element, this element focuses on ways that the City can leverage sustainability strategies to adapt to the effects of climate change in the Planning Area.

#### Climate Adaptation and Mitigation

**Adaptation** means the process of adjusting to the current and future effects of climate change. **Mitigation** means making the impacts of climate change less severe by preventing or reducing the emission of GHGs into the atmosphere.

#### SUSTAINABILITY IN CITY OPERATIONS

Local governments have an opportunity to achieve substantial cost savings, demonstrate energy and environmental leadership, develop local municipal capacity and expertise, and raise public awareness by promoting and adapting their operations to be more sustainable and climate-friendly.

Fairfield's leadership is already making strides to prioritize sustainability. In 2009, the City adopted its first Sustainability Report, which focused on making institutional facilities, equipment, and the City fleet more sustainable. Recently, the City began electrifying the City vehicle fleet. Many policies in this element focus on integrating best practices for green buildings, capital improvement projects, light emitting diode (LED) conversion of traffic control devices and streetlights, and other strategic initiatives. On a strategic level, this includes planning for climate-related risks across facilities and infrastructure, incorporating minimum preparation standards, and participating in regional climate planning efforts to develop coordinated strategies for addressing issues like sea level rise, water conservation, energy efficiency, and emergency preparedness.

In parallel, this Element directs the City to make economic shifts that reduce environmental risks and foster sustainable development, including evaluating environmentally preferable purchasing programs. These programs could integrate criteria for locally sourced goods, eco-friendly products, and sustainable practices in City operations and contracts. By encouraging sustainable business operations through certification programs and local procurement initiatives, the City not only supports ecological stewardship but also stimulates local economic activity and community engagement.



## NEIGHBORHOOD RESILIENCE

Neighborhood resilience, in the context of sustainability and climate change, refers to a community's ability to withstand, adapt to, and recover from environmental and social challenges posed by climate change impacts. The General Plan outlines strategies to enhance neighborhood resilience through various initiatives to improve the built environment. Additional relevant policies can be found in the Environmental Justice and Public Health Element.

Fairfield's urban tree canopy plays a vital role in enhancing neighborhood resilience to climate change by providing essential environmental and social benefits. Trees mitigate urban heat island effects by

offering shade and cooling, which helps to reduce temperatures and lower energy demands for cooling in neighborhoods. Trees can manage stormwater runoff by absorbing and slowing down water, which helps mitigate flooding risks during heavy rainfall. Tree canopy can contribute to improve air quality by filtering pollutants and sequestering carbon dioxide, and can create inviting outdoor spaces for recreation and relaxation. To implement this important resilience action, the City will work to develop an Urban Forest Master Plan.

Access to education and enhancing community resources can also contribute to neighborhood resilience. Outreach programs can help improve the community's ability to prepare in case of an

emergency, or emergency or be aware of programs and standards that can help protect them in times of extreme weather. Neighborhood resilience centers, or community-serving facilities that support resource distribution and onsite services before, during, or after a natural hazard event, are important assets that can be enhanced with high efficiency air filtration, solar power and backup storage, electric vehicle charging stations, and comprehensive programming. The City will support resilience center improvements based on greatest community vulnerability, cost-effectiveness, infrastructure readiness, and available funding, while also developing a strategy to integrate the centers into regular and emergency communication frameworks.



## 7.4. Conservation of Resources

### SUSTAINABLE ENERGY

The EPA estimates that as much as 25 percent of GHG emissions in the US comes from the generation of electricity for powering our homes and lives. Currently, the City of Fairfield partners with Marin Clean Energy (MCE) to provide a choice of more renewable electricity options to residents and businesses at stable and competitive rates. Starting in April 2022, MCE automatically became the primary provider for electricity generation, replacing PG&E. PG&E, which relies more on fossil fuels to generate electricity, continues to deliver energy and maintain lines and infrastructure in the Planning Area. To further reduce reliance on sources of electricity that contribute to GHG emissions, the City can continue to promote clean energy provided by MCE and encourage businesses and residents to switch to greener energy plans.

Fairfield is positioned to act as a model of energy efficiency and conservation through the establishment of City practices that reduce energy consumption. For example, an Energy Conservation project is currently underway and expected to deliver an investment grade audit of city facilities to support programming energy conservation measures into the Capital Improvement Program beginning in 2024.

Many energy efficiency and conservation measures rely on individual decisions, as well as incentives to make these decisions. Replacement of gas-powered home appliances to electric heat pumps and hot water heaters, electric dryers, and electric or induction stovetops can help reduce GHG emissions. With relevant partners, the City will also continue to disseminate information on incentives, such as energy upgrading financing options, that will encourage the Fairfield community to conserve energy.

### SUSTAINABLE BUILDING DESIGN

#### Green Building

Buildings and building design contribute significantly to greenhouse gas emissions through energy consumption for heating, cooling, lighting, and operating electrical appliances. Additionally, construction materials and methods, as well as building location and transportation impacts, contribute to a building's carbon footprint.

Green building techniques, increasingly adopted by homeowners and professionals, can play a large part in creating more sustainable and energy-efficient buildings. Practices and methods include using sustainable wood, recycling construction waste, optimizing building orientation

to reduce energy demand, employing efficient HVAC systems for better indoor air quality, using non-toxic construction materials, implementing water conservation methods, and integrating alternative energy sources.

Several requirements and supportive programs for green building design already exist. Adopted in 2010, the California Green Building Standards Code (CALGreen) was the first code of its kind to mandate green building design and construction in categories related to planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and air quality standards. The City's Building Code adopts the latest California Building Code by reference, so CALGreen measures apply to all new buildings. Local and national systems like the California GreenBuilder Program, LEED Green Building Rating System, and Build-It-Green offer guidance and certifications, while Solano County's voluntary Green Building Tier Program supports property owners and professionals in adopting sustainable construction practices.

In the future, the City can do much to prioritize green building design in public and private projects. For example, all City facilities can be designed or renovated so that they exceed CALGreen or Title 24 Energy Efficiency standards to the greatest extent possible. The City can also conduct energy audits on existing buildings to identify and implement measures that reduce energy consumption and seek to explore adaptive reuse of existing structures to avoid waste.

### Urban Heat

Geographically, specific locations within the Planning Area may be more prone to certain climate change effects. Areas with dense development are susceptible to “heat island” effects, where urbanization and human activities contribute to higher temperatures compared to surrounding natural areas. Heat islands typically result from dark surfaces, heat-absorbing building materials, reduced vegetation, and energy consumption. In Fairfield, most of the city is at low risk of urban heat islands; however, areas near its northern edges experience higher temperatures, shown in **Figure 7-1**. These include residential areas near Rancho Solano Parkway and Paradise Valley, and to a lesser extent, the Villages and areas within and around the Train Station Specific Plan.

In areas with high urban heat, the City will implement strategies to combat urban heat island effects and promote sustainability through practical measures. This includes incentivizing and requiring the use of “cool roofs”, heat-reducing surface treatments like reflective pavements, tree shading for parking lots in new developments. Community engagement efforts will inform property owners about available incentives, such as cool roof rebates, to encourage the adoption of these technologies. Additionally, the City will enforce a requirement for developers to shade at least 50 percent of new parking lot areas with trees within 15 years of permit issu-

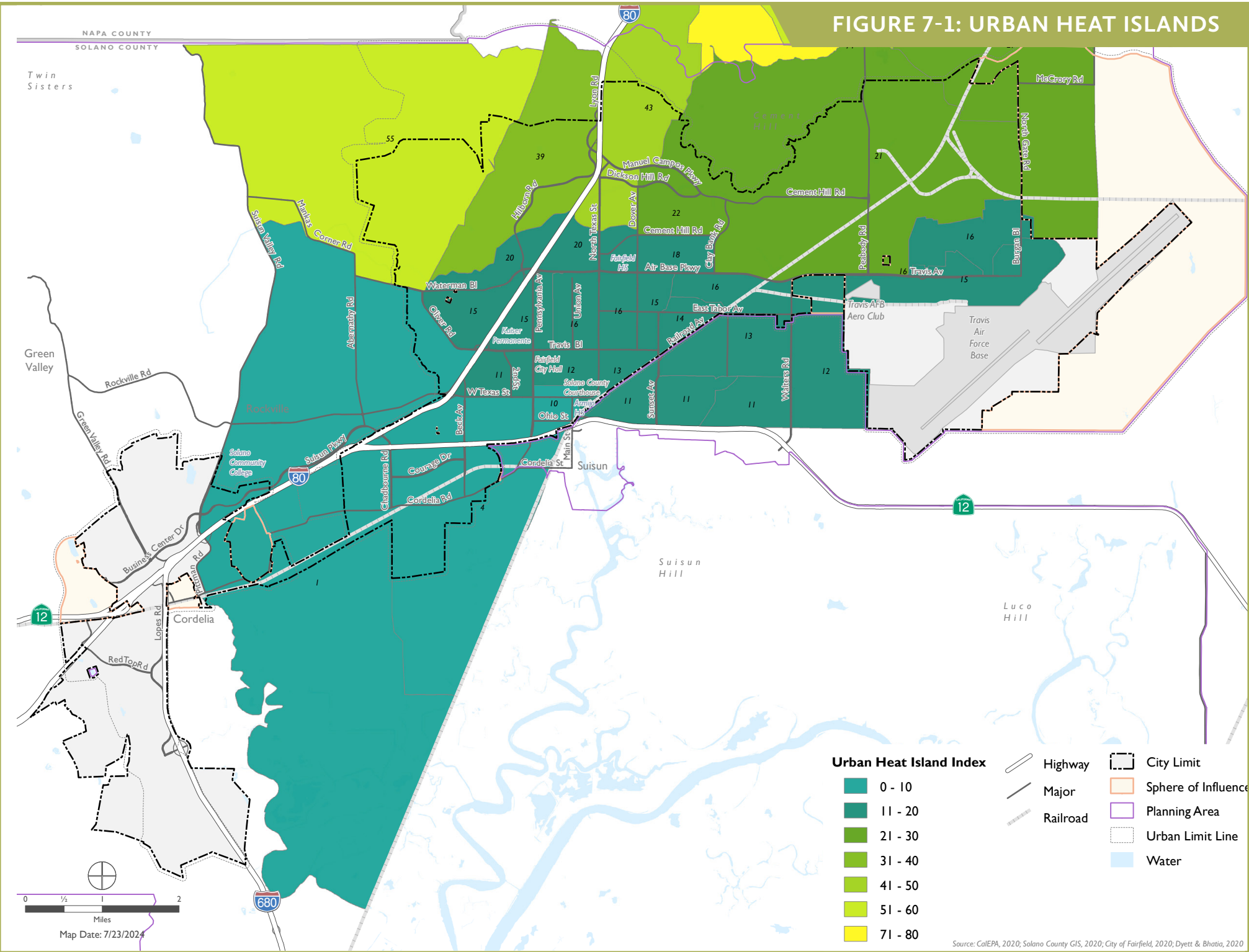
ance, aiming to decrease heat retention from paved surfaces and foster a more environmentally resilient urban landscape.

The City can explore pilot projects to test the cost efficiency of energy-efficient or climate-resilient materials, such as high-albedo paint that helps to deflect light and heat and keep buildings cooler. Requirements for street design and infrastructure can be made more compatible with the natural environment and reduce urban heat by incorporating strategies such as planting additional shade trees and landscaping, or using permeable or cooling surfaces.





FIGURE 7-1: URBAN HEAT ISLANDS



## TRANSPORTATION NETWORK

The layout and land use distribution within a city, along with transportation choices, significantly influence urban greenhouse gas (GHG) emissions. In car-centric communities like Fairfield, residents often depend on driving for work, shopping, services, and school commutes. Designing communities that offer sustainable transportation alternatives such as walking, biking, and public transit can foster healthier and more equitable cities, while also reducing GHG emissions and mitigating climate change impacts. For instance, residents living near everyday amenities like grocery stores and restaurants are more likely to walk instead of drive. Enhancements in pedestrian safety, connected bike networks, and accessible transit options further encourage the use of sustainable transportation modes. Policies promoting the expansion of supportive infrastructure for public transit and educating the public on sustainable transit options are detailed in this element, complemented by extensive policies in the Land Use and Urban Design Element and the Circulation Element to create walkable and interconnected neighborhoods.

Focusing on electric vehicles (EVs) and the necessary infrastructure is crucial for reducing greenhouse gas emissions and combating climate change. Transitioning from fossil fuel-powered vehicles to EVs requires investment in infrastructure,

such as charging stations and grid upgrades, to facilitate widespread adoption. By promoting EV use and ensuring robust infrastructure, Fairfield can reduce the environmental impact of transportation while maintaining the convenience and mobility that cars offer.

One of the biggest obstacles to EV charging expansion is adequate energy grid system capacity. There may be long waits for utilities to provide adequate electricity because of the complex regulatory process of laying new transmission lines, utility service department delays, and shortages of transformers needed for site upgrades. While State legislation like the Powering Up Californians Act (SB 410,

2023) will direct the California Public Utilities Commission (CPUC) to establish energization timelines and track compliance, other state agencies have resources that can help Fairfield identify any alternatives given current constraints. For instance, the California Energy Commission's new Electric Vehicle Supply Equipment (EVSE) Deployment and Grid Evaluation (EDGE) tool can help users pinpoint potential locations for charging stations based on existing data about grid capacity and other indicators. The City will continue to work with PG&E and MCE to ensure that there is sufficient electricity to address Fairfield's future EV charging needs, a key component in meeting its climate goals.



Fairfield has already begun electrifying its municipal fleet and is actively installing public EV charging stations at various locations through partnerships with the Solano Transportation Authority and the Bay Area Air Quality Management District (BAAQMD).

The California Air Resources Board's (CARB) Advanced Clean Fleets regulations is part of CARB's overall strategy to accelerate a large-scale reduction in tailpipe emissions focusing on zero-emissions medium- and heavy-duty vehicles. To comply with this regulation, policies within this element mandate the electrification of loading docks to support electric trucks. Policies also direct a transition away from fossil-fuel stations towards alternative fuels through additional permitting requirements.

## WATER CONSERVATION

The City of Fairfield has access to multiple water supplies and has proactively planned over the past several decades to ensure readiness for drought conditions and prevent water shortages. However, one of Fairfield's primary water sources, the State Water Project (SWP), is subject to variability based on annual hydrologic conditions and state decisions that may restrict supply due to various factors. While the City can manage short-term dry periods through water storage, prolonged impacts could affect water supply reliability in the longer term.

To enhance water conservation efforts, Fairfield will continue to follow State mandates requiring water-saving practices in new development projects, including the use of water-efficient plumbing and landscaping.

The City also plans to collaborate with the Urban Water Conservation Committee to offer water efficiency audits and educational programs aimed at encouraging water-efficient upgrades in existing buildings.

In anticipation of potential droughts and the impacts of climate change on Fairfield's water supply, the City is exploring alternative water sources such as greywater and recycled water. These sources could be utilized for landscaping, irrigation, and other non-potable uses. According to the City's 2020 Urban Water Master Plan, some potential industrial users near the Fairfield Suisun Sewer District have considered using recycled water for cooling towers and non-potable irrigation through the Fairfield-Suisun Sewer District. Although recycled water is not yet in use within the city, limited implementation is planned for the middle to far-end of the planning horizon.



## REDUCING WASTE

A critical aspect of sustainability and addressing climate change involves minimizing waste production through effective recycling and composting practices. Organic materials improperly disposed of in landfills generate landfill gas (LFG), which consists of approximately 50 percent methane (a potent greenhouse gas) and 50 percent CO<sub>2</sub>, along with other compounds. Methane is significantly more effective than CO<sub>2</sub> at trapping heat in the atmosphere over a 100-year period, contributing significantly to global warming.

Several California legislative measures seek to enhance recycling and divert organic waste from landfills. AB 341 (2012) established a statewide target of reducing landfill waste by 75 percent and requires businesses generating two or more cubic yards of solid waste per week to implement recycling programs. Fairfield mandates all businesses participate in City recycling programs, regardless of their waste volume. SB 1383 aims to reduce organic waste in landfills by 75 percent by 2025, promoting food recovery efforts and requiring educational outreach on organics recycling to residents, businesses, waste haulers, and local food recovery organizations. The Fairfield City Code mandates recycling and organics collection for all residential, industrial, and commercial sectors.

The landfill diversion rate measures the proportion of waste that is recycled or recovered, thereby preventing it from going to landfills and demonstrating progress toward waste reduction. In 2022, Fairfield achieved recycling and organic waste diversion rates exceeding 80 percent at facilities like Republic Services, Northern Recycling, Potrero Hills, Newby Island Resource Recovery Park, and West County Integrated Resource Recovery.<sup>3</sup> Currently, Fairfield diverts approximately 50 percent of its landfill waste. The General Plan sets ambitious targets aligned with state goals to achieve a 75 percent reduction in waste, recognizing landfill diversion as a crucial strategy for reducing greenhouse gas emissions.

<sup>3</sup> Department of Resource Management. Countywide Integrated Waste Management Plan. 2024 Non-Disposal Facility Element.



## GUIDING AND IMPLEMENTING POLICIES

### *GHG and Climate Change Vulnerability*

**SUS-1.** Strive to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030, and reach carbon neutrality by 2045, consistent with State law.

**SUS-1.1. Climate Action Plan (CAP).** Use the CAP (concurrently adopted with the General Plan) as the primary tool for achieving the City's GHG reduction targets. Monitor and periodically report on CAP implementation progress and update the CAP as necessary to make progress toward the City's greenhouse gas reduction goals.

**SUS-1.2. Climate Partnerships.** Partner with local, regional, and County agencies and utility companies to achieve GHG reduction targets. Strategies could include:

- Supporting local efforts to market programs and conduct community outreach.
- Fostering public/private partnerships to achieve greater energy efficiency
- Collaborating with the Solano County Resource Conservation District and other community organizations to formulate a program aimed at enhancing carbon sequestration or meeting SB 1383 goals for compost procurement within Fairfield's parks, open spaces, and riparian zones.

**SUS-2.** Plan and prepare for the compounded effects of climate change as part of City planning and operations.

**SUS-2.1. Hazards Evaluation.** As part of the Multi-Jurisdictional Hazard Mitigation Plan updates or other processes, regularly update hazard maps related to wildfire and sea level rise using best available science.

**SUS-2.2. Climate Planning and City Operations.** Evaluate climate risks and prioritize climate vulnerabilities in City facilities, infrastructure, expenditures, department strategic planning efforts, and operations. Establish a coordinated plan for the pursuit of related grants across City departments.

- Establish guidance and procedures for the consideration of climate impacts in all City infrastructure and capital projects, including minimum levels of preparation as applicable.
- Continue to seek funding opportunities, such as grant funding and government programs, to provide for new and continued financing mechanisms to support climate and long-term adaptability.



**SUS-2.3. Coordinated Climate Planning.** Regularly participate in regional climate-related planning efforts related to wildfire, sea level rise, water and energy conservation, and emergency planning.

**SUS-3. Support economic changes that reduce environmental risks and ecological scarcities while promoting sustainable development.**

**SUS-3.1. Environmentally Friendly Purchasing.** Evaluate and develop a potential environmentally preferable purchasing program, exploring the potential incorporation of criteria for locally sourced goods, eco-friendly cleaning products, recycled content in paper goods, sustainable street furnishings, road construction materials, alternative fuel vehicles, and the engagement of local and sustainable businesses for contracted services. Balance utilization of local and eco-conscious products/services and their financial implications for the City, considering both their benefits and effectiveness.

**SUS-3.2. Sustainable Business.** Establish and promote a sustainable business certification and identification program to spotlight sustainable business operations in the community. Highlight these businesses as part of a program to encourage residents and businesses to shop locally and spur local economic activity.



## Neighborhood Resilience

**SUS-4. Ensure that Fairfield neighborhoods are equipped to effectively address and adapt to challenges associated with wildfire, flooding/sea level rise, and urban heat.**

**SUS-4.1. Urban Tree Canopy.** Develop a Citywide Urban Forest Master Plan or similar document, to provide detailed information, recommendations, and timelines to effectively manage and grow the City's tree canopy. As part of this plan:

- Assess locations that would benefit from additional tree coverage and greenery, such as tree deficient or neighborhoods with vulnerable populations to shield against rising temperatures.
- Develop a program to finance, manage, and expand the City's street tree canopy as a valuable ecological and public health resource, especially along key bicycle and pedestrian corridors and other areas with greater pedestrian concentrations, and higher-density neighborhoods.

- Include recommendations for native or drought-tolerant trees.

**SUS-4.2. Heat Pump Retrofits.** Equip facilities that as serve community cooling centers with heat pumps in heating, ventilation, and air conditioning (HVAC) systems, instead of energy-intensive air conditioning units. Prioritize community-serving facilities in neighborhoods with a high urban heat island index and higher social vulnerability.

**SUS-4.3. Wildfire Smoke and Air Quality.** Improve indoor air quality and protect against smoke and wildfire through methods such as requiring installation of high-efficiency minimum efficiency reporting value (MERV) filters in new developments and identifying additional clean air centers and resilience spaces within residential areas.

**SUS-4.4. Resiliency Centers.** Optimize existing City-owned community centers, libraries, and other public facilities for dual use as resiliency centers which provide resources such as cooling, enhanced air filtration, onsite solar power and backup storage, vehicle charging, and supportive programming and services. Evaluate cost-benefits, infrastructure feasibility, and funding opportunities, and prepare a list of priority facilities as funding becomes available. Develop a resilience communications strategy that integrates Resilience Centers with the City's regular and emergency communication strategies.

## *Sustainable Energy*

**SUS-5. Coordinate with partners and the public to reduce energy consumption and promote energy conservation.**

**SUS-5.1. Electricity Provider Conservation Efforts.** Support efforts that increase energy conservation in all households and businesses.

**SUS-5.2. Energy Conservation Resources.** Support education, outreach, and training programs for residents and businesses to increase awareness of energy conservation techniques and resources.



**SUS-6.** Support the development of a robust, reliable, and resilient energy system by transitioning from fossil fuels to renewable sources.

**SUS-6.1. Energy Efficiency and Environmental Resiliency Financing.** Engage with stakeholders to identify potential means of supporting private sector investments that enhance the energy efficiency and/or environmental resiliency of multi-tenant residential, commercial, and/or industrial buildings. This type of investment may include the installation of renewable energy systems, enhancing energy efficiency in existing buildings, mitigating future environmental impacts such as sea level rise, and facilitating enhancements like electric vehicle chargers and battery storage.

**SUS-6.2. Minimizing Dependence on Natural Gas.** Subject to further financial evaluation and community feedback, establish minimum sustainable energy requirements for municipal and private development that may result in a transition to electric building systems and appliances in both new

constructions and existing structures currently reliant on natural gas, to the extent permissible by law.

**SUS-6.3. Overcoming Regulatory Hurdles.** Continue efforts to remove regulatory obstacles and introduce incentives to promote solar energy adoption, including rooftop solar installations and parking lot canopies. Encourage and expedite the deployment of renewable energy systems aligned with the objectives outlined in the Climate Action Plan.

**SUS-6.4. State and Federal Advocacy.** Advocate for State and federal legislative initiatives aimed at revising utility rates to incentivize energy conservation and allocating funding for research and development of alternative and renewable energy sources.

**SUS-6.5. Electrification Planning.** Continue to work with PG&E And Marin Clean Energy to ensure adequate energy grid capacity for expanded electric vehicle charging station infrastructure.

## *Sustainable Building Design*

**SUS-7.** Create development patterns and incorporate design techniques that prioritize sustainability and energy efficiency in site and building design.

**SUS-7.1. Sustainable Development Patterns.** In appropriate locations/sites over a certain size, seek to develop a fine-grained, integrated land use and circulation pattern that reduces reliance on vehicle use and encourages getting around using alternative modes of transportation that improve health.





### SUS-7.2. Green Building Requirements in Municipal Projects.

Incorporate green building techniques, renewable energy technology, and best management practices in site design, construction, and renovation of all public projects so City facilities serve as a model for energy efficiency through the following actions:

- Target all new municipal developments to exceed state Title 24 Energy Efficiency Standards to the extent possible.
- Implement measures identified during the energy audit process to reduce energy use in existing buildings.

### SUS-7.3. Existing Structure Reuse.

Encourage the retention of existing structures and promote adaptive reuse and renovation with green building technologies in order to retain the structures' embodied energy, increase energy efficiency, and limit the generation of waste. Pursue pilot projects to test use of new energy-efficient or climate resilient materials in

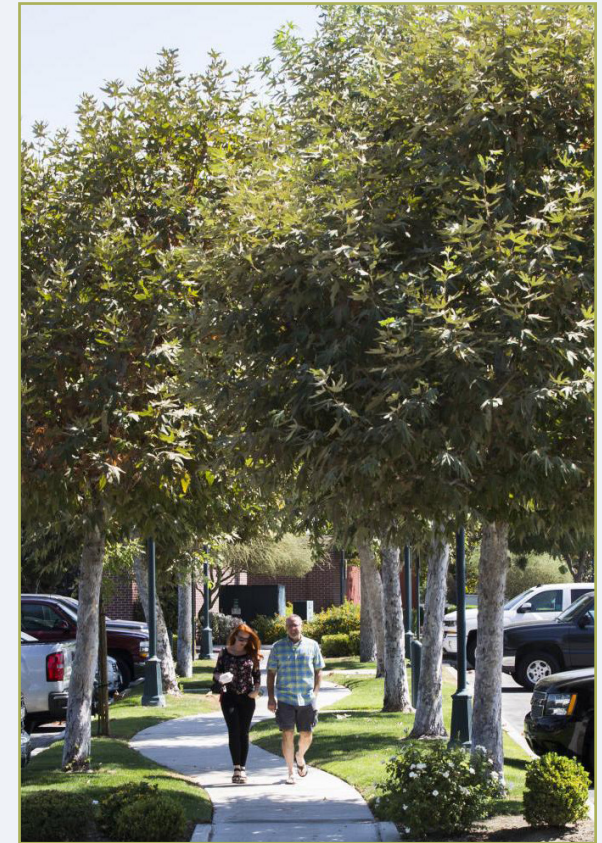
City infrastructure projects, including as part of municipal facilities (such as administrative offices, community centers, and maintenance buildings).

**SUS-7.4. Green Streets.** Strive to design streets and infrastructure so they are more compatible with the natural environment, mitigate urban heat island effects, and have fewer negative impacts on air and water quality, flooding, climate, and natural habitat.

**SUS-7.5. Ambient Heat Reduction.** Encourage the utilization of roofing designs and surface treatments, such as “cool roofs”, pavement that minimizes heat gain, or solar panels that shade parking lots to mitigate the heat island effect associated with new developments. Target community engagement of property owners in “urban heat islands” as shown in **Figure 7-1** and raise awareness about cool roof rebates and other incentives.

### SUS-7.6. Parking Lot Tree Shading.

Require that developers add shade trees to cover at least 50 percent of a parking lot's total paved area within 15 years of the issuance of development permits.



## Transportation Network

**SUS-8. Support programs to reduce auto dependency and GHG emissions from personal vehicles.**

*For policies to reduce vehicle miles traveled, see policies in the Circulation Element.*

**SUS-8.1. Promote Alternative Fuel Stations.** As part of permitting new fossil fuel stations or expansions, require provision of alternative fuel chargers/pumps and plans for the eventual full transition to alternative fuels.

**SUS-8.2. Alternative and Public Transportation.** Support the expansion of Park and Ride areas and other support facilities to encourage use of public transportation, including the City of Fairfield's fixed route transit system (FAST), on-demand microtransit and paratransit, car and van pooling, and car/bike share.



### SUS-8.3. Electric Vehicle (EV) Fleet.

Establish a schedule for transitioning the City's vehicle fleet, starting with small and mid-size vehicles, to vehicles that are 100 percent electric or powered by clean, renewable energy. Explore use of EV shuttles between City- and County-owned buildings.

### SUS-8.4. Electric Vehicle (EV) Charging at City-Owned Facilities.

Develop a strategic plan to expand electric vehicle charging infrastructure at City-owned facilities and work with electricity providers to overcome barriers to EV charging provision.

**SUS-8.5. Electrify Loading Docks.** In new development, require the electrification of all loading docks to facilitate plug-in capability, and encourage or require trucks to utilize grid power in order to deliver goods.

**SUS-8.6. Sustainable Transit.** Increase education regarding use of more sustainable transportation options to reduce greenhouse gas emissions in the city.

## Water Conservation

**SUS-9. Implement measures to lower per capita urban water consumption, promoting water conservation and sustainability.**

**SUS-9.1. Water Conservation Techniques.** Require water conservation techniques to be incorporated into the design of all development projects.

**SUS-9.2. Water Efficiency Programs.** Coordinate with the Solano Urban Water Conservation Committee to provide water efficiency audits for residential and commercial buildings and implement incentives to encourage water-efficient retrofit improvements to existing private buildings.

**SUS-9.3. Greywater and Recycled Water.** Promote the use of and analyze barriers to the use of greywater systems and recycled water for irrigation purposes. As infrastructure becomes available, encourage recycled or grey water use and stormwater capture systems in new and existing developments, and in areas that do not impact groundwater quality.

**SUS-9.4. Municipal Water Use.** Consider carrying out a water conservation audit of existing municipal facilities and improve efficiency of municipal water use through retrofits and employee education.

**SUS-9.5. Native/Drought Tolerant Landscaping.** Develop a recommended drought-tolerant and native tree and plant species list and make it available on the City's website, along with information about the benefits of using drought-tolerant and/or native vegetation. Require the planting of native and/or drought-tolerant landscaping at the site of new/existing City facilities, landscaped medians, and parkway strips to reduce water use and maintenance costs. Consider requiring that compost be applied to these areas to further reduce water loss.

**SUS-10. Integrate sustainable stormwater management strategies.**

**SUS-10.1. Green Infrastructure.** Incorporate green infrastructure practices to reduce pollution runoff, reduce

stress on stormwater systems, recharge underground aquifers, and reduce urban heat island effects, while promoting greenery in the community. Consider developing a Green Streets Plan that includes policy guidance, tools, analytics, and funding mechanisms to create more sustainably designed street and storm drainage systems.

**SUS-10.2. Stormwater Management.** Require stormwater management techniques that minimize surface water runoff in public and private developments. Utilize low-impact development techniques such as bioswales and other best management practices to manage stormwater.

## Reducing Waste

**SUS-11. Facilitate recycling, reduction in the amount of waste, and reuse of materials to reduce the amount of solid waste sent to landfill.**

**SUS-11.1. Recycling Program.** Continue to implement a comprehensive, user-friendly recycling program that involves all City operations. Target recovery of 75 percent of all waste generated at City operations.

**SUS-11.2. Waste Reduction.** Promote sustainability measures for businesses and residents to reduce waste, such as municipal composting, recycling, and expanded education on the benefits of the green waste recycling program.



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