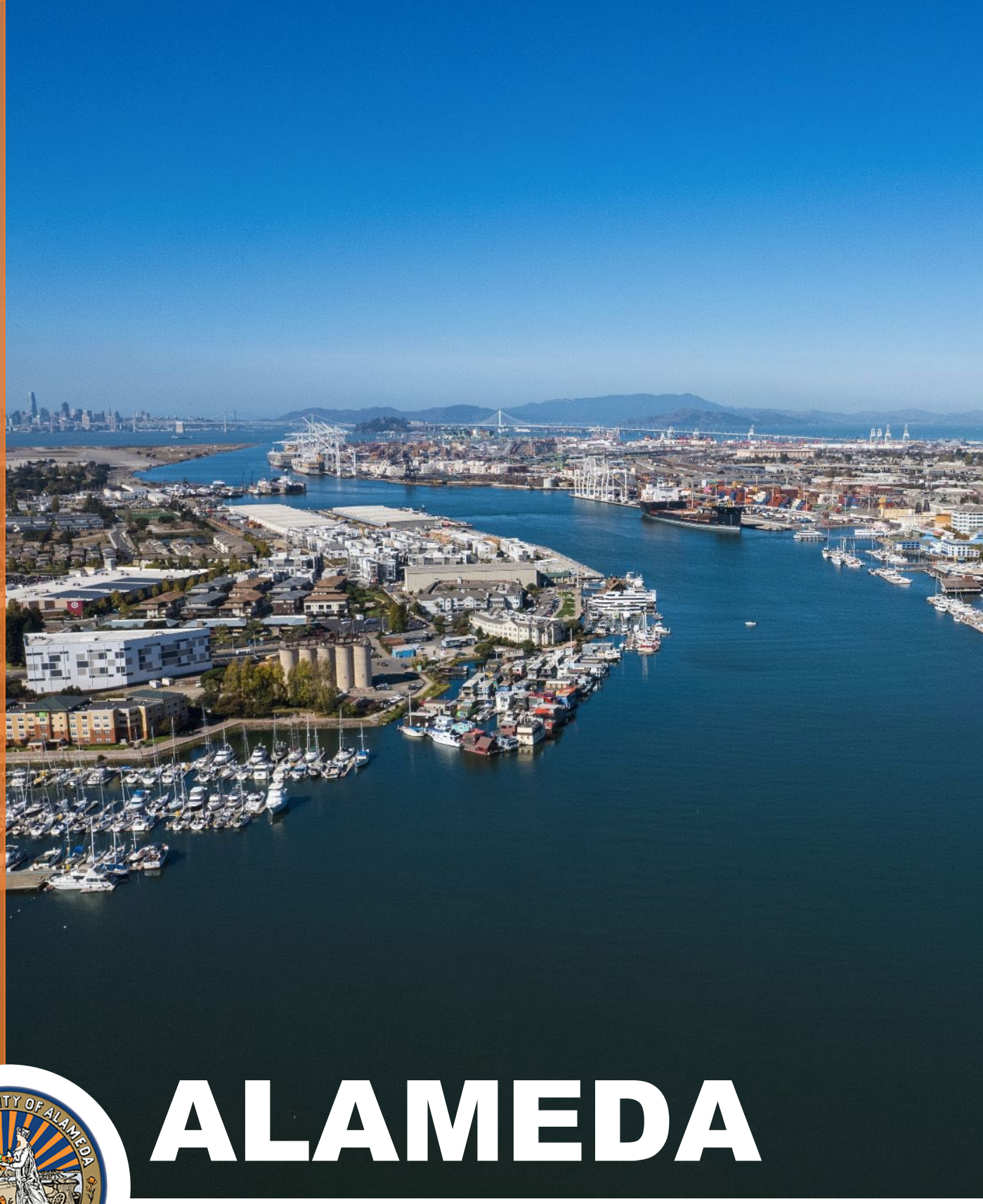

ALAMEDA

DRAFT Climate Action and Resiliency Plan (CARP) 2022 Annual Report and 2023 Work Plan

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Introduction

Climate Action and Resiliency Plan (CARP) annual reports are presented to the City Council in March each year to align with the presentation of the Transportation Annual Report and Work Plan, which has significant implications for climate mitigation. Appendix B of this annual report also serves as the annual report of Alameda's Climate Adaptation and Hazard Mitigation Plan, which was adopted in 2022, as required by FEMA.

The CARP was adopted by the City Council in 2019 with the goal of reducing greenhouse gas emissions (GHG) by 50% below 2005 levels and becoming carbon neutral as soon as possible while adapting to a changing climate. Following CARP adoption, the City declared a climate emergency which includes a goal of becoming carbon neutral by 2030. CARP calls for safe routes for walking and biking, high quality public transit, fully electrified buildings and transportation., zero waste, and carbon sequestration through tree planting and applying compost. Many of these actions will also improve quality of life for Alamedans, making their homes safer, improving traffic safety, reducing heat island effect, and more.

The introduction of 100% clean energy by AMP in 2020 set the stage for Alameda to achieve net zero emissions through fully electrified buildings and transportation. To decarbonize buildings, the City has established policies requiring that all new and substantially remodeled buildings be all-electric. Now the focus turns to the more challenging work of upgrading existing buildings to be climate-ready. In 2022, staff developed the Equitable Building Decarbonization Plan which outlines a phased approach to equitably implement the programs, policies, financing and community education and engagement that need to be in place by 2030 to make this transition.

In 2022, the State and Federal government took several important actions that will significantly accelerate Alameda's building decarbonization plans.

- The Inflation Reduction Act passed by Congress represents the largest clean energy investment America has ever made with up to $14,000 in incentives for every household to electrify the appliances they rely on, putting the US on track to achieve 40% emissions reductions by 2030.
- The State of California directed an additional $145 million to continue the statewide TECH initiative aimed at accelerating the adoption of clean space and water heating technology in California homes.
- The California Air Resources Board (CARB) adopted a new rule that will ban the sale of all new natural gas-fired space heaters and water-heating appliances by 2030.

Together, these significant developments signal that the transition to green, zero emission buildings is under way and Alameda is well positioned to make significant progress in this area while improving the health, safety and energy affordability of older buildings.

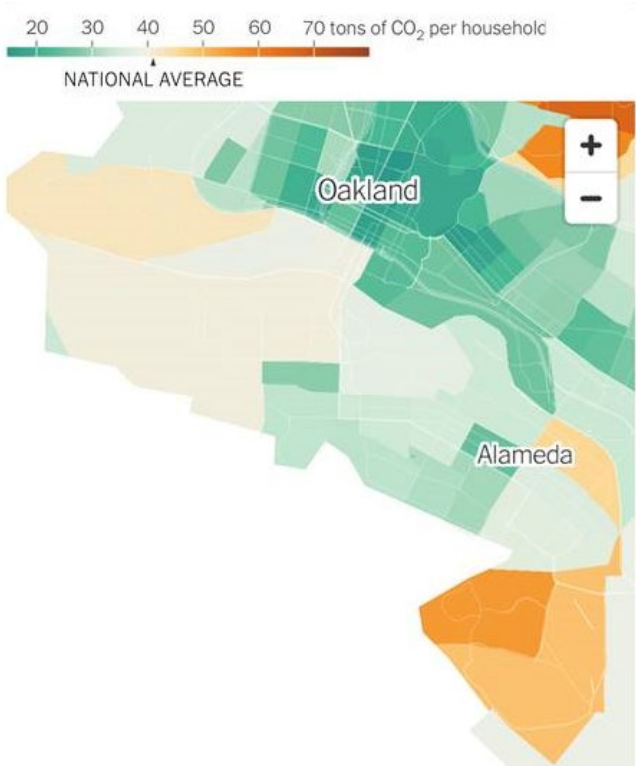
Alameda is also making strides on zero emission transportation with the adoption of the Active Transportation Plan in 2022 to provide safe, comfortable, and accessible ways for people of all ages and all abilities to get around Alameda by walking, biking, or using wheelchairs and mobility scooters, pedal and electric scooters and bikes, and 68 miles of new or upgraded bikeways and trails. Even as Alameda's population is growing, 984 fewer vehicles are registered in Alameda since 2017 and an increasing share of those vehicles are electric (totaling 5.2%). In a city where half the population are renters, providing publicly accessible EV charging stations will be critical to ensuring that all residents have equal access to vehicle charging.

Even as Alameda's population is growing, 984 fewer vehicles are registered in Alameda since 2017 and an increasing share of those vehicles are electric.

CARP also commits the City to adapt to climate change. In 2021, Alameda convened the San Leandro Bay/Oakland-Alameda Estuary Adaptation Working Group to accelerate implementation of shoreline adaptation projects in coordination with our shoreline partners and community members. The Working Group has been meeting regularly over the past 18 months and has been successful in winning grants in 2022 to develop a long-term adaptation plan and to address high priority flooding locations identified in CARP. The winter storms in late December and January 2023 that correlated with very high tides are reminders of the vulnerabilities we face as a low-lying island community (see inset). Such events are projected to become more severe and frequent in the future. The city struggles with street flooding from storm drains during heavy precipitation events and is upgrading the stormwater system's capacity to help address some of these issues. Today's 100-year storm represents approximately 3.5 feet of sea level rise, projected to occur around 2070 with a high GHG emissions scenario.

Flooding on Fernside Drive (top) and Main St (bottom) during December 31, 2022 winter storm

The City of Alameda cannot avert climate change on its own. Community members, business, other cities and counties, the state, federal government, and the world must all collaborate in an immediate and concerted effort to reduce global emissions. Individuals can commit to changes in their personal lives. Some already emit less than the national average (see inset). Walking, biking and taking transit, driving electric for trips that must be made by car, making energy efficiency upgrades in homes and switching gas appliances to electric ones, taking fewer plane flights, buying less or used, eating a low meat diet, and reducing food waste are some of the small changes all community members can make that add up to big changes across the whole community. Together we can make a difference and secure our future on this island.



Neighborhood Consumption-Based Greenhouse Gas Inventory (Source: UC Berkeley Cool Climate Network and EcoDataLab)

Vision & Goals

By promoting both GHG reduction and climate adaptation measures, CARP implementation is helping Alameda increase resilience to climate change and ensure a sustainable and healthy environment, improved social equity, and a vibrant economy.

The CARP outlines a path to achieve nine targeted goals in support of the overarching vision (see inset). These goals include an ambitious target for GHG reduction, a set of goals for increasing resilience to climate hazards, and a final goal for the City to effectively implement the plan and build capacity. These goals were slightly revised the 2022 Climate Adaptation and Hazard Mitigation Plan.

Vision for the *Climate Action & Resiliency Plan*

Alameda is an innovative leader in achieving net zero carbon emissions and community resilience as soon as possible, and serves as a model for similarly impacted cities to do the same. Our community members are a vital part of this ongoing process.

- **GHG Reduction:** Reduce GHG emissions to 50 percent below 2005 levels by 2030 and achieve net zero GHG emissions as soon as possible.
- **Sea level rise and storm surges:** Protect assets from sea level rise and storm surges, including community vitality and recreational opportunities, plan future land use to avoid impacts, and enhance natural shoreline habitat to mitigate impacts.

- **Inland flooding:** Increase the resilience and capacity of the stormwater system to prevent flooding of assets during extreme precipitation events.
- **Drought:** Reduce water consumption and increase drought-resistant landscaping.
- **Extreme heat:** Reduce the heat island effect and protect vulnerable populations from heat impacts during heat waves.
- **Wildfires:** Protect public health from smoke impacts during wildfire events, especially among vulnerable populations.
- **Earthquakes:** Minimize loss of life, community disruption, and property damage in an earthquake, especially for areas at risk of liquefaction, and prepare for a timely and equitable restoration of community functionality.
- **Tsunamis:** Reduce property damage and loss of life in a tsunami and prepare for the safe evacuation of people from the tsunami zone.
- **Effective implementation and capacity building:** Develop financial and human resources and increase transparency, community engagement, social resilience, and support for effective implementation of climate adaptation and hazard mitigation strategies.

Commitment to Equity

In the development of CARP, social equity was considered when assessing the potential impacts of climate change, the costs and benefits of proposed City actions, and project prioritization. To better understand the impacts of climate change locally, the city uses BCDC's community vulnerability map.

Community Vulnerability Map (Source: BCDC, 2020)

By incorporating social vulnerability into CARP implementation, staff recognizes that hazard events do not have the same impact on every household: impacts are influenced by income, ability, age, English language proficiency, and other socioeconomic characteristics. The CARP is committed to implementing adaptation and GHG reduction strategies that are socially beneficial, especially for underserved communities. One example is the CARP's prioritization of equity is mode shift strategies that increase transit, bicycle and pedestrian safety and access, making affordable mobility options available to a broader range of Alamedans. Another equitable strategy is AMP's rebate program for used EVs, launched in spring 2020, which allows more Alamedans to enjoy the cost savings and cleaner air from driving a zero-emissions vehicle. The Equitable Building Decarbonization Plan developed in 2022 lays out a plan for how to support low- and moderate-income households in the transition to affordable, green, electric homes.

CARP implementation is a further opportunity to align both GHG emission reduction goals and racial equity goals and create a process that facilitates a just transition into a sustainable future. The City will ensure that policies and programs developed to implement CARP are beneficial to vulnerable populations and that they address the needs of vulnerable communities. Inclusive outreach and engagement were a priority in the CARP development process and continues to be a priority through implementation.

2022 Accomplishments

Staff and departments across the City made significant progress in 2022 reducing GHG emissions and waste and adapting to climate change. Key accomplishments are summarized below. **Appendix A** provides a detailed description of the Accompishments against each of the implementation priorities identified for 2022.

GHG Reduction

- Developed an Equitable Building Decarbonization Plan.
- City Council renewed and expanded the all-electric reach code requiring all new residential and commercial construction and significant renovations or additions to be all-electric—i.e., no natural gas or propane infrastructure installed and electric appliances for space heating, water heating, clothes-drying, and cooking.
- City Council adopted the Active Transportation Plan, delineating pedestrian improvements, a low-stress bicycle network, project prioritization, and the future of Slow Streets.
- Completed key transportation safety improvement projects as highlighted in the Transportation Annual Report.
- AMP launched a new $1,500 rebate for electric heat pump heating, ventilation and air conditioning (HVAC) units.
- AMP launched a new $300 e-bike rebate and up to $600 for income qualified customers and increased the amount of its rebate for used electric vehicles to $3,000 for income qualified customers.
- The City launched implementation of streamlined solar permitting (SolarAPP+), which brings the processing time to receive a solar permit from more than a month to less than an hour. The City also received a $60,000 California Energy Commission implementation grant.

- Starting November 1, 2022, AMP began waiving the $300 interconnection fee for residential customers installing new solar PV systems or new solar PV systems with battery storage in buildings built before January 1, 2020 and provides a $500 solar rebate for income qualified customers.
- Kicked-off development of an updated and expanded Urban Forest Plan to be completed in late 2023.

Waste

- Updated its paper purchasing guidelines to reflect Senate Bill (SB) 1383's minimum 30% recycled content requirements for paper and paper products and set a higher standard for white copy paper of 100% recycled content.
- Secured a grant for $115,019 to help the City comply with SB 1383 and increase compost application in the City and began implementation of SB 1383, the state's Short-Lived Climate Pollutant Reduction Law, to reduce methane emissions from landfills and to increase the recovery of edible food.
- Expanded Alameda County Industries (ACI)'s on-call waste clean-up program to include multi-family households, to allow for more material to be collected, and to recover items for reuse.
- Entered into agreements with StopWaste and the Alameda County Department of Environmental Health (ACDEH) to help educate, implement, and enforce SB 1383.
- Participated in the 38th annual Coastal Clean Up event that helped remove 130 pounds of micro plastics and approximately 1,300 pounds of other trash from the shoreline.

Adaptation

- Secured $4.14 million in funds for sea level rise adaptation projects.
- City Council adopted a FEMA approved Climate Adaptation and Hazard Mitigation Plan and amended the General Plan Safety Element to align with the plan.
- Hired a consultant to help with tsunami evacuation planning. The work scope includes creating evacuation scenarios and meeting with stakeholder partners to improve coordination.

2023 Work Plan

While staff is making great progress towards CARP goals, it is also clear there is more work to do. We must double down on our efforts to complete the necessary actions to do our part to meet the moment of the climate emergency. The 2023 priorities are designed to address those areas with the greatest need.

Staff have identified nine priorities for CARP implementation in 2023. Work plan priorities were developed based in part on those CARP strategies that were identified as needing attention, as well as other priorities identified by staff. The work plan will be carried out by a variety of city departments as indicated in the following table.

Task	Lead	Description
GHG Reduction		
1. Update citywide GHG inventory and prepare for 2025 CARP update.	Sustainability and Resilience Manager	The Climate Action and Resiliency Plan was adopted by the City Council in 2019. CARP calls for the City to update the citywide GHG inventory in 2023 and submit a CARP update to City Council before 2025. In 2023, staff will request funds in the FY 2023-25 budget for an updated GHG inventory and CARP update, will complete an updated GHG inventory and will issue an RFP for the CARP update to be completed in the 2024 calendar year.
2. Update Urban Forest Plan (Continuation of 2022 priority)	Sustainability and Resilience Manager ARPD Public Works Planning, Building and Transportation Department	In 2023, staff will work with Dudek consultants to complete the updated and expanded Urban Forest Plan. The Urban Forest Plan will address the management of trees in Alameda, including not only street trees but also park trees, trees in easement areas, trees near power lines, and will make recommendations to enhance the urban forest on private property and on other non-City land. The plan is intended to be strategic in advancing social equity and contributing to an improved quality of life by providing the benefits of an urban tree canopy to all community members, which includes improvement of emotional, psychological, and physical health.
3. Expand publicly available electric vehicle (EV) charging network (Continuation of 2022 priority)	Sustainability and Resilience Manager Public Works AMP	In 2023, staff identify and study locations for both Level 2 and DC fast charging. New funding opportunities through the Inflation Reduction Act, CaleVIP 2.0, CARTS and NEVI grants will be examined to maximize cost efficiency. Additional public EV charging facilities will support residents to replace their gasoline vehicles with zero emission vehicles and will expand access for residents who rent or live in multi-family units that do not have vehicle charging on site. California has banned the sale of new gas vehicles after 2035 and the City will need infrastructure in place to respond to implementation of this legislation.
4. Implement near term priorities of the Equitable Building Decarbonization Plan	Sustainability and Resilience Manager AMP Planning, Building and Transportation	In 2023, staff will prioritize educating renters, homeowners, and building managers on the benefits of building decarbonization to support voluntary adoption of energy efficiency and building electrification measures. Staff will seek to inform residents such as via social media, workshops, emailing, flyers, and the City's website, in partnership with Alameda Municipal Power to reach a broad range of residents. Staff will explore an ordinance

Task	Lead	Description
	Department	requiring electrification and energy efficiency measures when renovating existing homes or upgrading certain appliances and explore revenue measures and state and federal funding to support local efforts.
Waste		
5. Increase compost application (Continuation of 2022 priority)	ARPD Public Works	Beginning January 1, 2022, the City is required to implement state law SB 1383, which is designed to reduce short-lived climate pollutants, including methane from landfills. The requirements include establishing an edible food recovery program and procuring products made from recycled materials. SB 1383 requires the City to annually procure a minimum amount of recovered organic waste products (compost, mulch, renewable gas, or electricity from biomass conversion). The City can meet this requirement by directly acquiring or procuring products for use or give away or contracting with a service provider. Staff is coordinating with the Alameda County Waste Management Authority (StopWaste) and various City departments to determine costs and funding options to procure required products (primarily compost and mulch) and potential areas to apply this material. Increasing compost and mulch application in the City can help reduce methane emissions, sequester carbon, conserve water, and build healthy soil.
6. Develop strategy to phase-in sustainable purchasing requirements (Continuation of 2022 priority)	Public Works All Departments	To comply with SB 1383, the City updated its procurement guidelines to ensure City purchases of paper and paper products include minimum 30% of recycled content for paper and paper products. The City also established a higher standard for white copy paper of 100% recycled content. The City will develop a strategy to phase-in additional sustainable purchasing requirements to help shift markets for products and services toward options with less harmful effects on human health and the environment.
Adaptation		
7. Launch Bay Farm Island adaptation project	Sustainability and Resilience Manager Planning, Building and	In 2022, the City was awarded a $1.5 million grant from FEMA with a $500,000 local match to develop 100% design for Veterans Court and Lagoon System 1 Outfall adaptation projects as well as to develop long-term adaptation pathways for the Bay Farm Island shoreline. In 2023, the City will select a contractor, will begin design of

Task	Lead	Description
	Transportation Public Works ARPD	the project, and will engage with key stakeholders and community members, and will begin design of the short-term project.
8. Launch Estuary adaptation project	Sustainability and Resilience Manager Planning, Building and Transportation Public Works	In 2022, the City was awarded a $425,000 grant from Caltrans with a $75,000 local match. This estuary project will be done in collaboration with the City of Oakland to create an adaptation concept and to engage community members for the shoreline area near the Posey and Webster tubes and the Jack London Square area of Oakland. In 2023, the City will select a contractor, will engage with key stakeholders and community members, and will develop a concept.
9. Conduct De-Pave Park Master Plan process	ARPD	In 2022, the City was awarded a $800,000 grant from the San Francisco Bay Restoration Authority (SFBRA) Measure AA grant in 2022 to conduct an inclusive Master Plan process for De-Pave Park with broad community outreach and development of 30% construction documents so the City can submit for regional permits and apply for construction grants. The City Council approved the contract to begin developing the Master Plan in January 2023.
10. Launch development of a shoreline vision and adaptation pathways in coordination with the Adaptation Working Group	Sustainability and Resilience Manager Planning, Building and Transportation Public Works	In 2022, the City, on behalf of the Adaptation Working Group was awarded a $540,000 grant from the National Fish and Wildlife Foundation and was recommended for a $300,000 grant from the San Francisco Estuary Partnership to formalize the Working Group and to develop a long-term adaptation pathway master plan for the entire San Leandro operational landscape unit (OLU) shoreline, which stretches from the Bay Bridge touchdown to Oyster Bay in San Leandro. In 2023, staff will engage with the Adaptation Working Group and other stakeholders to select consultants and community-based organizations, and to begin developing the plan.

Status of Strategies and Performance Measures

This section tracks progress made in 2022 towards implementing each of the CARP strategies and provides an update on how we're doing against CARP's performance metrics.

Transportation

Transportation accounts for 70% of the City's GHG emissions. CARP builds on the goals and actions of the Transportation Choices Plan to reduce solo driving and to encourage walking, biking, riding transit, and telecommuting. For more information on accomplishments and priorities related to transportation, please refer to the Transportation Annual Report. In addition to mode shift, expanding the adoption of electric vehicles and charging infrastructure is an integral part of reducing GHG emissions from the transportation sector.

For further details on transportation, refer to the 2022 Transportation Annual Report and 2023 Work Plan.

Mode Shift Strategies

T1: Reduce commute vehicle miles traveled

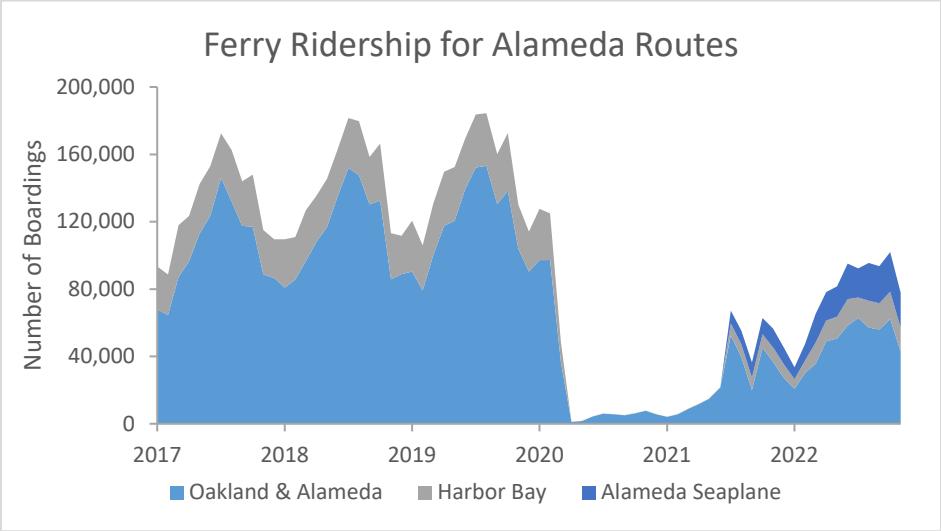
Encourage employees and employers to reduce commute trips by telecommuting. In addition, implement a combination of programs that encourage telecommuting and land use decisions that increase work-live and mixed zoning.

Status: Needs Attention

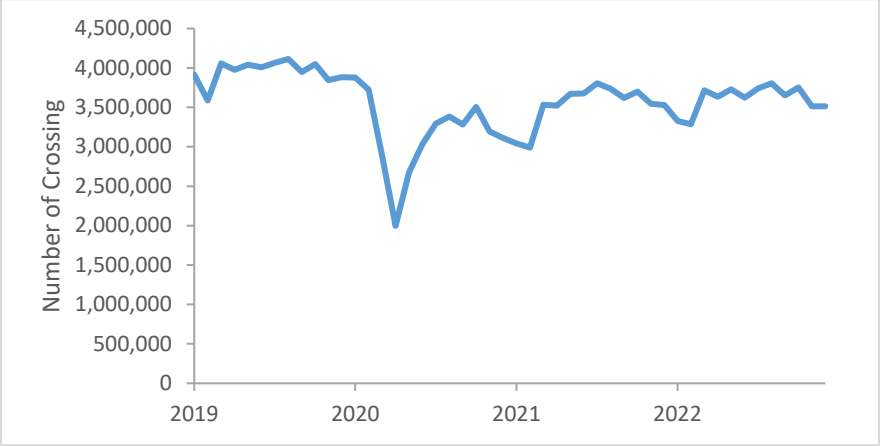
Telecommuting became more commonplace as a result of COVID-19. Even as many offices have reopened since the start of the pandemic, many employees continue to work remotely or a hybrid of remote and in person work. This pattern is likely to remain for the foreseeable future. However, hybrid work will only be good for vehicle miles traveled and GHG emissions if those commuting to work take public transit, bike, or walk in the greater numbers than they did before the pandemic. The data below show that while transit ridership is trending to pre-pandemic levels, freeway and bridge traffic largely returned to normal back in 2021 and 2022. Bus ridership continued increasing in 2022, and average daily boardings on AC Transit bus lines serving Alameda were 60% higher than in 2020. However, 2022 ridership was still 45% lower than in 2019, before the pandemic began.

Per WETA's December Ridership & Recovery Report, the Oakland & Alameda, Harbor Bay, and new Alameda Seaplane routes all saw steady weekday ridership growth through the end of October and early November. Across the system, weekend ridership has been notably strong: average Saturday ridership in October 2021 was higher than in October 2019.

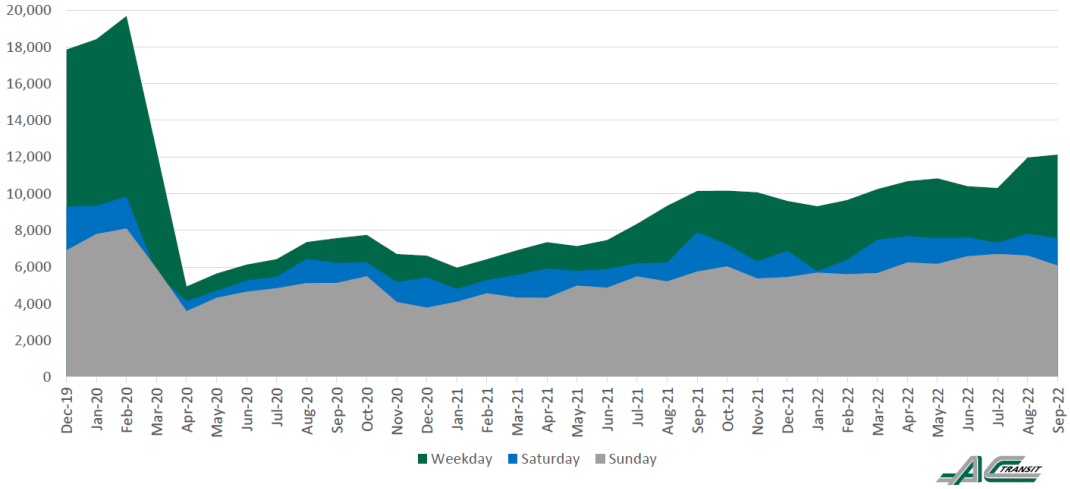
Alameda's General Plan update includes policies to encourage telecommuting and zoning amendments to facilitate mixed use development and work-live spaces. In April 2022, the City Council approved the Smart City Master Plan without the transportation-related recommendations, which still allows the City to move forward with the communications backbone and supporting telework.



San Francisco- Oakland Bay Bridge Monthly Toll Crossings



San Francisco-Oakland Bay Bridge Traffic Volume (Source: MTC (https://mtc.ca.gov/tools-resources/data-tools/monthly-transportation-statistics). Data last updated January 4, 2022. Retrieved January 17)



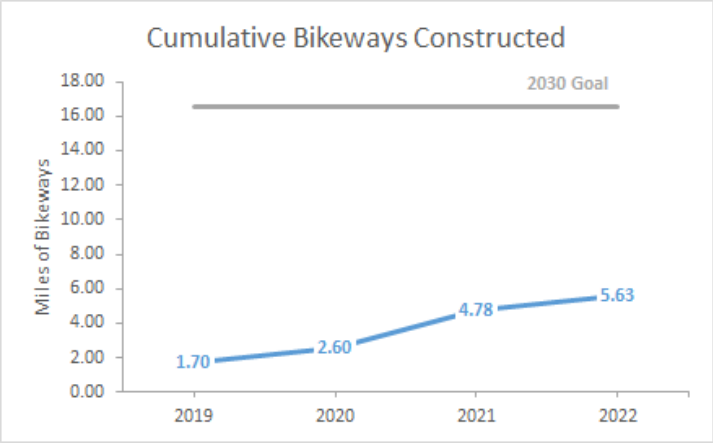
Monthly Alameda AC Transit Boardings (Source: AC Transit)

T2: Build additional bike lanes

Construct an additional 10.44 miles of dedicated and protected bike lanes on top of the 6.1 miles bikeway projects already planned in the Transportation Choices Plan (TCP) and make pedestrian/bicycle improvements that increase safety, make it easier for people to use these modes, and connect residential neighborhoods with commercial centers and workplaces.

Status: Making Progress

In 2022, 0.85 miles of bikeways were completed as part of CARP and TCP. In combination with progress in previous years, 5.63 miles of bikeways have been constructed towards the 2030 goal of 16.54 miles. In order to meet the CARP goal, 1.82 miles will need to be constructed annually until 2030. Alameda's bicycle network now consists of 53.6 miles of bikeways. Bikeways tracked towards the CARP goal do not include sharrows, which are still part of Alameda's bicycle network.



T3. Traffic signal synchronization

By 2030, improve synchronized timing of 25 traffic lights to improve traffic flow by slowing vehicle speeds and reducing idling.

Status: On Track

Public Works has completed signal timing and coordination projects at 13 intersections in the Park and Webster Street corridors.

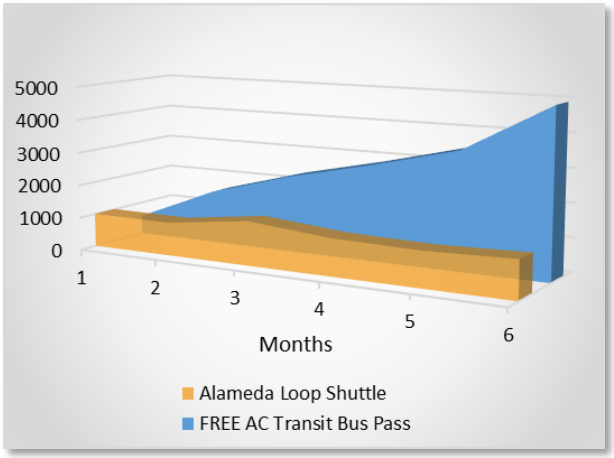
T4. Expand *EasyPass* Program

Provide 5,000 AC Transit EasyPasses in addition to the 5,000 already committed to in the TCP, for a total of 10,000 passes to be distributed by 2030.This strategy is prioritized for 2025-2030.

Status: Making Progress

Through the City's Paratransit program, the Alameda TMA provided EasyPasses to Site A and Northern Waterfront residents in 2022. The City also provided free bus passes to low-income seniors and people with disabilities as a three-year pilot program in partnership with AC Transit using Measure BB paratransit funds as well as to Alameda Point Collaborative residents. Alameda CTC expanded its free bus pass program to low-income Alameda Unified School District students.

In 2022, the paratransit program was transitioned from the Alameda Loop Shuttle, which was underutilized and less cost-effective, to providing

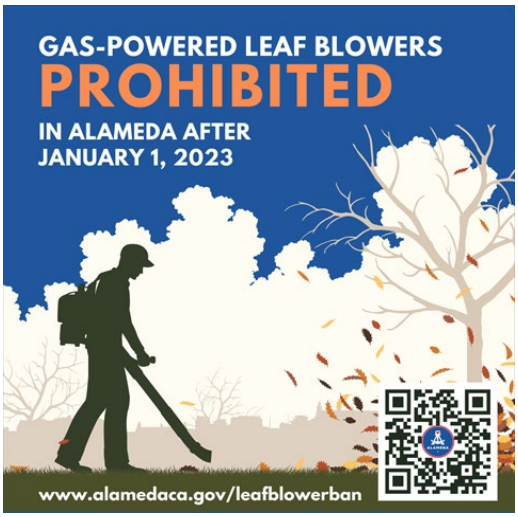


Monthly Boardings Comparison

participants with free AC Transit bus pass and an Uber/Lyft concierge programs. In November 2022, 146 unique users took 4,931 trips using the Alameda Free AC Transit Bus Pass Pilot Program. Contrast this with April 2019, which was the highest ridership month for the Alameda Free Loop Shuttle, where there was a total of 1,323 boardings.

The figure below compares the first six months of the Free AC Transit Bus Pass Program and the top six months of the Alameda Loop Shuttle boardings from May 2019 – October 2019.

T5. Ban gas-powered leaf blowers
Ban gas-powered leaf blowers in the City of Alameda.



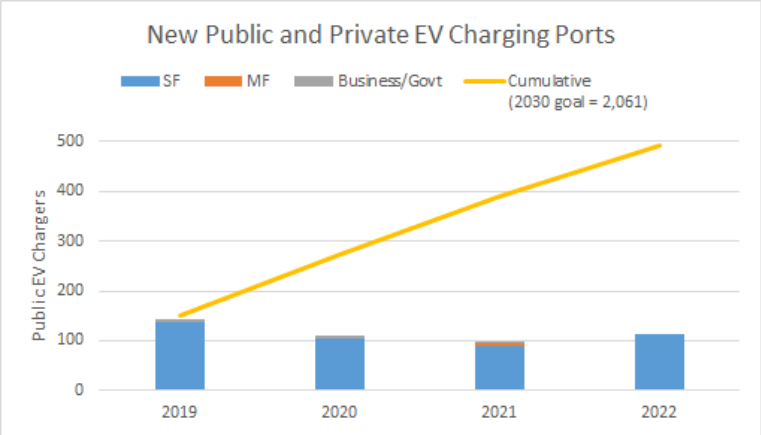
Status: Complete
In September 2021, City Council passed an ordinance banning the sale and use of gasoline-powered leaf blowers. The law will go into effect starting January 1, 2023. In 2022, staff conducted various education and outreach to prepare to implement the leaf blower ban, including development of a website that will continue to educate the public and businesses about the ban and encourage the switching to electric and battery-powered leaf blowers. Through the CORE program, the state of California is making electric commercial landscape equipment available to landscape contractors at a 70% discount. More information about the leaf blower ban and enforcement can be found at www.alamedaca.gov/leafblowerban.

Transition to Electric, Zero Emission Vehicles Strategies

T6. Increase availability of EV chargers citywide
Ensure that all new developments with new parking lots install charging stations for residents and/or customers. Streamline permitting processes for existing homeowners and business owners who wish to install charging stations. Add public charging stations in all City-owned parking lots. Allow residents to rent their driveways and private EV chargers to renters who do not have access to convenient charging.

Status: Needs Attention
City Council previously passed an ordinance in 2021 to comprehensively update citywide off-street parking and loading space regulations, including a requirement to install EV chargers in new residential and commercial developments. These requirements exceed those in the California Green Building Standards Code.

AMP continues to encourage the installation of level 2 EV chargers at residential properties and offers customers in single family (SF) homes up to $800 in rebates for installing a qualifying level 2 EV Charger. In 2022, 112 residential customers received an AMP rebate to install a qualifying level 2 EV charger.



AMP also works closely with multi-family (MF) buildings serving as a resource and technical assistance guide for Level 2 charging installation. In addition to serving as a technical resource guide, AMP launched a new Multi-Family Level 2 Charging rebate program. This rebate is $8,000 per charger up to $48,000 for qualifying multi-family buildings. In 2022, AMP received six applications to this program and is working closely with customers each step through the application process; however, none have yet been issued.

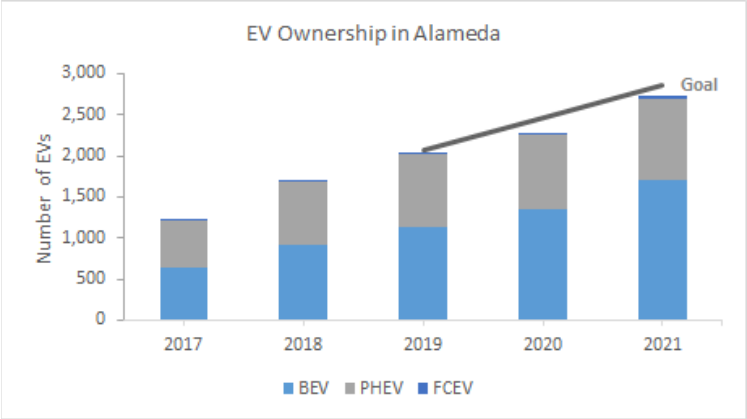
AMP also works with businesses and government property owners to encourage installation of EV charging infrastructure and provides up to $33,000 for up to 6 level 2 charging stations per site. In 2022, 32 commercial rebate applications were received; however, none have yet been issued.

T7. Promote purchase of LEVs and ZEVs

Implement communications and outreach activities to promote the acquisition of light-duty EVs.

Status: On Track

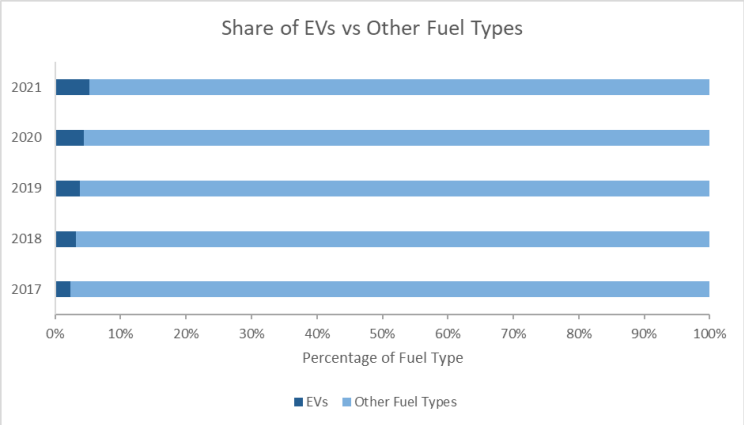
Alameda residents continue to purchase EVs at an increasing rate and are close to reaching and exceeding the City's goal for EV ownership. 5.2% of registered vehicles in Alameda are electric, plug-in hybrid or fuel cell vehicles, for a total of 2,721 vehicles.



Source: California Energy Commission (2022). California Energy Commission Zero Emission Vehicle and Infrastructure Statistics. Data last updated April 30, 2022. Retrieved November 19, 2022 from https://www.energy.ca.gov/zevstats

AMP currently offers rebates for both used EV purchases and for in-home level 2 chargers to encourage more residents to make the switch to EVs. As automakers continue to release more zero-emission models and supply chain issues surrounding production diminish, we can expect this ownership trend to accelerate in Alameda.

To further encourage adoption, AMP has led various outreach efforts to engage and educate customers about EVs. AMP conducted two Electric Vehicle 101 webinars, created new one-pagers outlining all of AMP's clean transportation programs, and had its first in-person Ride and Drive event to kick off Drive Electric Week. In addition, AMP has worked with other Electric Vehicle campaigns and non-profits to promote regional and state level programs to customers. California recently passed legislation that requires 100 percent of new vehicle sales to be zero-emission vehicles by 2035 which should also help the City reach this goal.



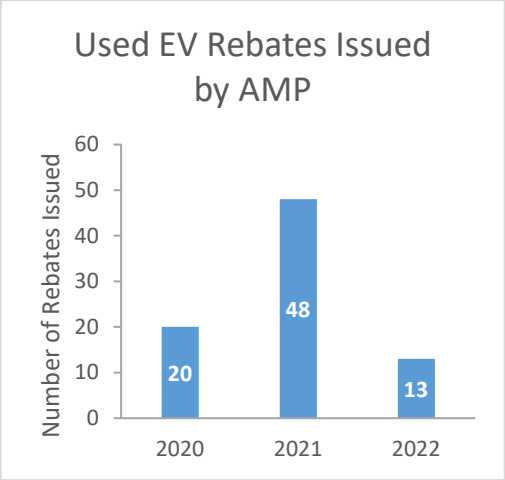
T8. Continue programs to encourage new EV purchases

Encourage EV ownership by promoting a manufacturer's suggested retail price rebate. Also, emphasize continuation of programs from AMP, subject to PUB approval, to provide rebates to residential and non-residential customers who purchase a level 2 EV charging station.

Status: Making Progress

In 2022, AMP increased their rebate for used EVs by offering $2,000 for all residents who purchased a used EV and $3,000 for income-qualified residents. In September 2022, AMP raised the qualifying purchase maximum value for a used EV from $22,000 to $35,000 to match the increasing market rate costs of used EVs. This marked an increase from former rebates of $1,000 and $1,500, respectively, released in 2020.

A total of 13 used EV rebates were issued in 2022 while 126 charger rebates were issued for single family residences, multifamily buildings, and retail locations. The City's goal is to issue 821 EV rebates and 1,047 charger rebates by 2030. AMP has given out 81 EV rebates and 515 charger rebates to date.



T9. Continue to encourage businesses to install EV charging stations

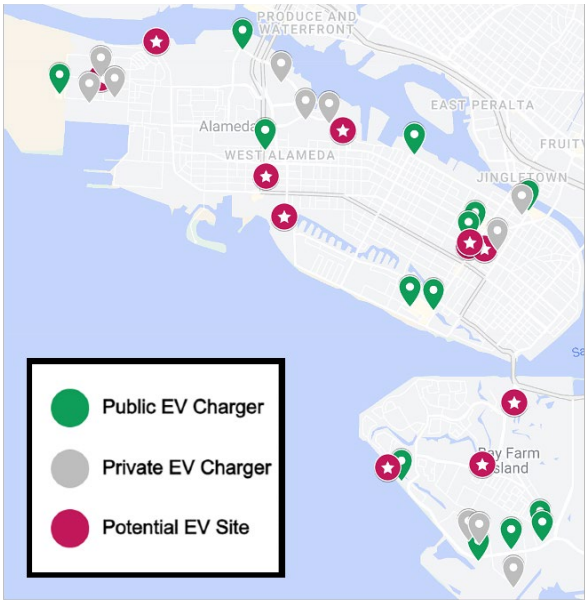
Implement communications and outreach activities to encourage workplaces and businesses to install EV charging systems

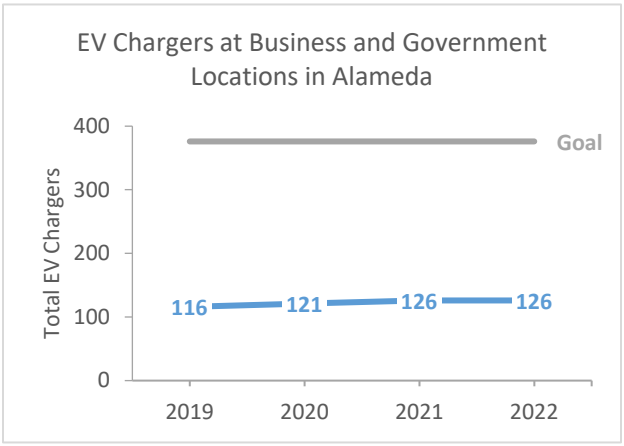
Status: Needs Attention

CARP's goal is to add 260 new charging ports at business and government locations in the first five years of CARP. AMP's commercial EV charger rebate provides up to $33,000 for business or governments to install level 2 EV chargers. AMP has received applications for 10 charger installations and is working closely with customers at each step of the application process, however no business or government rebates were issued in 2022.

In 2022, staff focused on expanding the public EV charging network at city-owned parking lots with a goal of having an EV charger available to all residents within a quarter-mile of their home (approximately a

five-minute walk) to allow all residents, regardless of income or housing situation, the ability to comfortably own an electric vehicle. Staff submitted applications to the California Electric Vehicle Infrastructure Project (CALeVIP) to install EV chargers at several public parking lots across the City. At this time, the installation of level 2 charging stations at Seaplane Lagoon Ferry Terminal is in progress and other locations are planned. A total of twelve additional city owned parking lots have been identified as potential sites for public EV charging and staff is continuing to develop feasibility studies at these sites and identify funding for implementation. A variety of state and federal funding will become available for public EV chargers in 2023.





T10. Electrify City's fleet

Convert the light-duty portion of the City's vehicle fleet to EVs and right-size the fleet.

Status: Making Progress

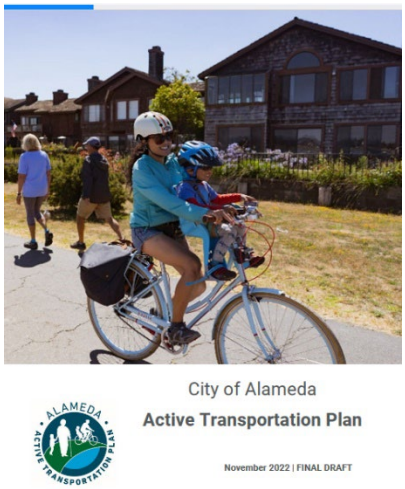
Consistent with the Council's fleet policy, the City is replacing light duty vehicles with EVs as they are replaced. The fleet is also being right sized to reduce the number of vehicles the City manages. City Hall West installed a dedicated alcove for charging those vehicles. In 2022, Public Works purchased three Go 4 Interceptor parking enforcement vehicles that will be delivered in 2023.

In 2022, AMP purchased six Ford F-150 Lightning electric trucks for its fleet and installed six new charging ports to support the trucks. In addition, AMP has six sedans (4 BEV, 2 PHEV) in its fleet and four existing L2 dual-connector chargers to support the sedans.

Additional Progress and Programs

Active Transportation Plan

The Active Transportation Plan is a consolidated plan that updates the 2009 Pedestrian Plan and 2010 Bicycle Master Plan. The plan focuses on creating safe pathways for people to get around comfortably and enjoyably using active transportation. Other focuses of the plan include connectivity, equity and mode share. The plan incorporates mode shift related transportation strategies from CARP. The plan was approved by the City Council on December 20, 2022.



Energy Use in Buildings

Energy use in buildings accounts for 27% of the City's GHG emissions. Because AMP provides 100% clean energy to all customers, fuel switching from natural gas to electric for space heating, water heating, cooking and clothes drying appliances will reduce emissions. In addition, increasing energy efficiency through weatherization, building insulation, and more efficient appliances will further reduce overall energy use and emissions.

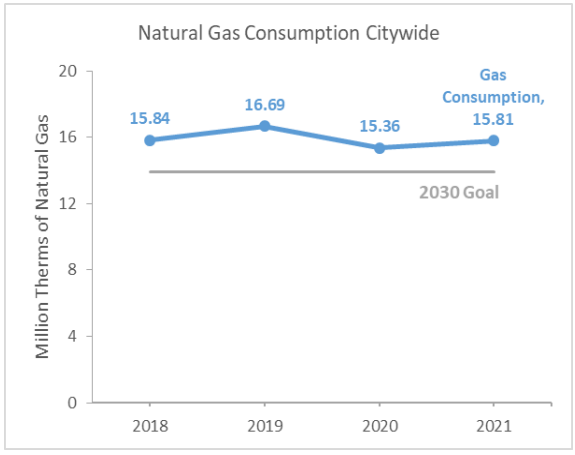
Energy Use in Buildings Strategies

E1: "Fuel switch" in existing buildings

Convert natural gas consumption to electricity use in residential and commercial buildings. Require field switching from natural-gas to electric appliances and heating when existing residential buildings are being substantially expanded. Support programs that encourage homeowners/commercial building owners to implement electrification retrofits.

Status: On Track

In 2022, the City Council renewed and expanded the all-electric reach code requiring all new residential and commercial construction and significant renovations or additions to be all-electric—i.e., no natural gas or propane infrastructure installed and electric appliances for space heating, water heating, clothes-drying, and cooking.



Source: Pacific Gas & Electric Company (2022). Community Inventory Report. Retrieved November 22, 2022.

AMP provided 14 electric panel upgrade rebates that support electrification and adoption of EVs. In addition, AMP's marketplace offers an evolving e-commerce platform allowing residents to research, compare, and purchase green products. AMP's marketplace offers instant rebates on qualifying items and recently added electric bikes to the marketplace. In June 2022, AMP launched a new heat pump space heating electrification rebate to incentivize customers to switch from gas to all electric heating. Customers who qualified for the new Heat

Pump Space Heating rebate also qualified for a promotional program that provides an additional $100 off of smart thermostats purchased from the marketplace.

The City partnered with BayREN and AMP to send a letter to Alameda contractors in November 2022 informing them about how to become a BayREN certified contractor and how to take advantage of available incentives from IRA, TECH, BayREN and AMP and upcoming contractor training.

Staff worked with UC Berkeley Goldman School of Public Policy Graduate students to complete a report in May 2022 on Funding and Financing the Electrification of Low- and Moderate-Income Residential Buildings in Alameda to recommend funding and financing options to support the City's decarbonization goals.

The City conducted a survey in July 2022 to better understand barriers and opportunities for electrification and decarbonization of multi-family residential buildings in Alameda. This understanding will allow the City to provide better support for multifamily building owners and ease the process of decarbonization. The survey was sent to all building owners and managers in Alameda registered through the Alameda Rent Program. A total of 41 owners and managers responded to the survey and their answers and responses are summarized in the summary report. A summary of survey responses can be found at https://www.alamedaca.gov/BuildingDecarb.

In 2021, the latest data available, overall gas consumption increased in Alameda by about three percent. On further examination of the data, residential gas consumption decreased slightly year over year while commercial usage increased by nearly 500,000 therms. It can be posited that the significant decrease in 2020 consumption compared to 2019 was due to the COVID-19 pandemic and the shutdown and slowdown of businesses during the year. The City will need to wait until the data for the 2022 year is released to accurately identify and track how the City's gas consumption is actually trending.

E2: Electrification of new residential construction

Prepare ordinances requiring all new residential construction to be 100% electric-powered with no gas hookups.

Status: Complete

In December 2022, City Council renewed and expanded the all-electric reach code requiring all new construction and significant renovations or additions to be all-electric. An all-electric building is defined as a building that has no natural gas or propane plumbing installed within the building property lines, and instead uses only electricity as the source of energy for its space heating, water heating, cooking appliances and clothes drying appliances. This ordinance will need to be re-adopted with each new building code update and may be modified at that time.

E3: Programs to encourage fuel switching in certain appliances

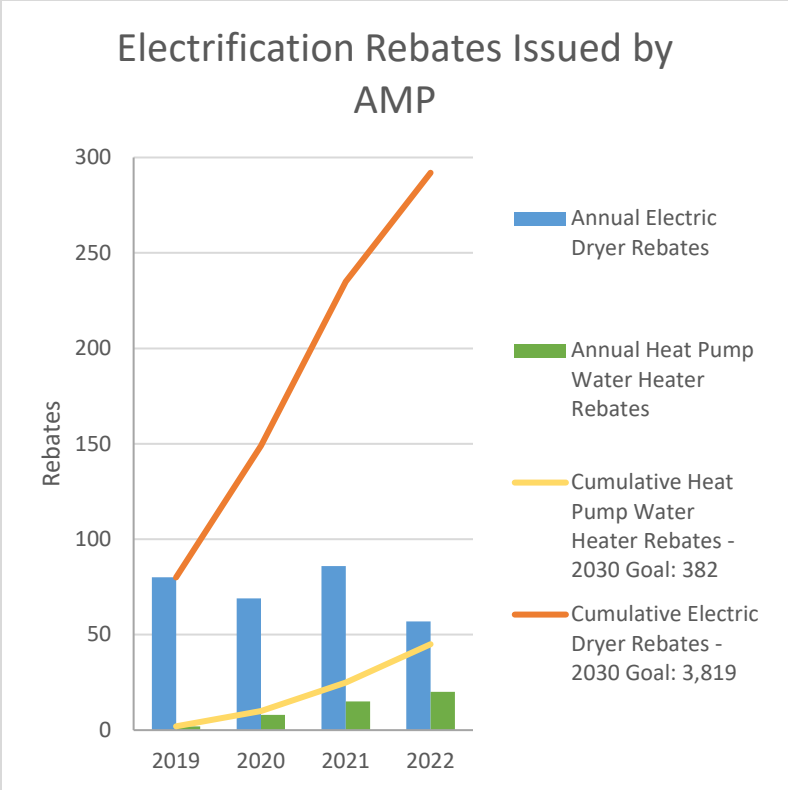
Programs to encourage fuel switching in certain appliances. Encourage the PUB to continue implementing AMP rebate programs incentivizing residential customers to install ENERGY STAR-labeled electric clothes dryers and electric heat pump water heaters (HPWH).

Status: **Needs Attention**

AMP continues to offer Alameda residents rebates for HPWHs and electric dryers. In 2022, AMP launched a new rebate for the installation of heat pump space heating HVAC units. This year, 20 HPWHs

and 57 electric dryers were installed with assistance from AMP rebates. AMP also offers no cost food service audits to qualifying customers, and commercial rebates for switching to electric food service equipment and HPWHs.

AMP is evaluating rebates for induction cooktops, induction ranges and conducting ongoing research. Water heater manufactures are actively working on the development of HPWHs that run on 120-volt circuits for the near future. This advancement holds strong future growth potential for HPWH adoption as it would reduce electrification barriers and attract a larger pool of customers. To continue the upward trend of HPWH adoption, AMP staff conducts continual research on technology developments and designs programs accordingly.



E4: Green roof installations on new developments in Alameda Point

Require at least 10% of roof areas on new development in Alameda Point to be installed as green roofs. This action aligns with the Alameda Point Stormwater Management Plan requirements.

Status: Complete

The Alameda Point Stormwater Management Plan requires installation of green roofs at Alameda Point. City Council approved revisions to the Design Review ordinance in 2019 exempting green roof, cool roofs, and similar roof treatments from design review, provided the installation does not require modifying the existing roof form or pitch.

E5[1]: Promote distributed generation (rooftop solar)

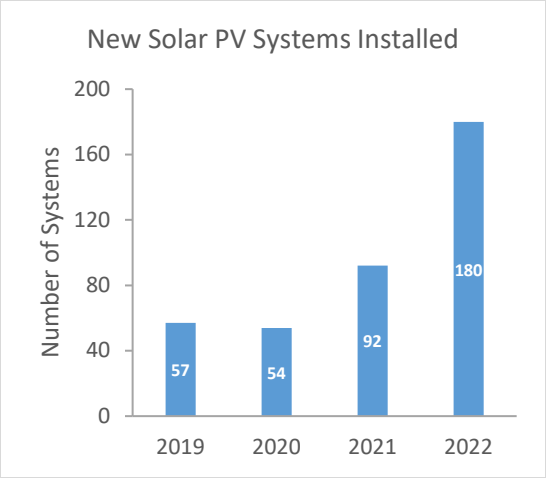
Status: On Track

CARP does not set specific goals for solar generation. However, in 2022, 180 customers completed rooftop solar installations, which marked a 96 percent increase from the previous year. AMP offers the Eligible Renewable Generation (ERG) plan for new renewable generation customers that provides a monthly bill credit for the excess energy they deliver to AMP's power grid.

Starting November 1, 2022, AMP began offering two new solar programs. One program is waiving the $330 interconnection fee for residential customers installing new PV systems or new PV systems with

[1] GHG reduction actions have been renamed so that the unquantified actions called "supplemental actions" in the CARP are numbered in the same manner as the quantified actions. E5 and E6 were referred to as unnumbered supplemental actions in the CARP and do not have specific goals associated with them

battery storage in buildings built before January 1st, 2020. This fee waiver does not apply to commercial solar projects or installations greater than 50 kilowatts. The second is an incom e qualified solar rebate for $500 to customers whose annual household income is less than $106,000. This rebate covers the cost of City and application administrative fees.



The City also launched a new streamlined solar permitting process using SolarApp+ in December 2022 that works in conjunction with the building department's new expedited same day permitting process for electrical service upgrades, heat pumps and EV chargers. With the new online permitting program, the time to get a solar permit in Alameda will be reduced from a month or more to about an hour. The City also received a $60,000 CEC implementation grant.

E6[1]: Draft zoning code amendment to facilitate reduction in energy use

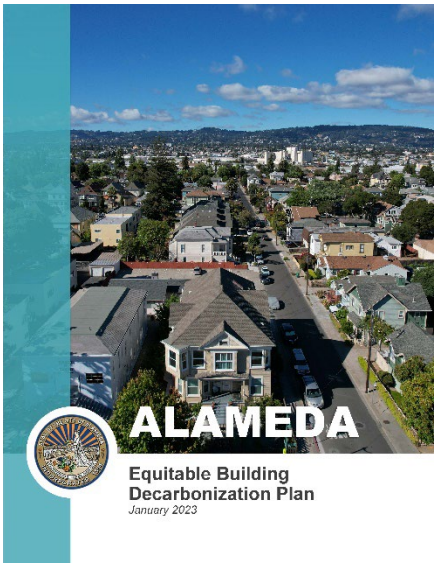
Status: Complete

City Council approved revisions to Design Review ordinance in 2019 that exempt replacement or upgrading of windows and doors from design review.

Additional Progress

Equitable Building Decarbonization Plan

Staff developed an Equitable Building Decarbonization Plan with community input for Council consideration that lays out the process for shifting natural gas use in existing buildings toward clean, energy efficient all-electric buildings in accordance with the City's climate and equity goals. The plan provides a phased approach that includes new policies and programs, financing options, expanded rebates, and community education and outreach. The plan aligns with other citywide efforts to create affordable, safe, healthy and resilient housing and prepare the City to leverage grants and funds as they become available. As part of the development of the plan, the City conducted an electrification workshop series with seven community workshops and an electrification community survey. The plan was adopted by the City Council on January 17, 2023 and is available at https://www.alamedaca.gov/BuildingDecarb.



Funding and Financing the Electrification of Low- and Moderate-Income Residential Buildings in Alameda

In May 2022, public policy graduate students at UC Berkeley's Goldman School of Public Policy developed the Funding and Financing the Electrification of Low- and Moderate-Income Residential Buildings in Alameda report. The report analyzes new funding and financing strategies to support widespread and equitable adoption of building decarbonization measures. This report provides guidance to staff on developing existing electrification policies and programs in the future.

Land Use and Housing

High density development and urban areas reduce GHG emission through reduction in VMT, promotion of mode shift, less energy for cooling and heating and decreased procurement of construction material. Many climate initiatives such as increasing green space and building electrification can impact the housing affordability in Alameda. To prioritize equity, climate initiatives must consider the potential impact on housing affordability and displacement. The City continues to support regional plans for high-density, transit-oriented development. The City's General Plan was updated in 2021 and is consistent with CARP.

2022 Housing Element Adopted

The Housing Element 2022 Update is Alameda's housing plan for 2023-2031. It is Alameda's blueprint for how and where it will provide sufficient housing for all members of the Alameda community, including seniors, families, single-person households, single parent households, people with disabilities, lower-income households, and people experiencing or facing the prospect of homelessness. The Housing Element is a hugely important component of meeting Alameda's CARP goals. A denser housing pattern contributes to lower greenhouse gas emissions by ensuring that residents can be less dependent on cars to get around town. Providing a range of affordable housing in Alameda also ensures that Alameda's workers of all incomes have the opportunity to live closer to where they work and rely less on vehicles. New development in Alameda is also required to be all electric and tends to be more energy efficient, reducing building emissions. The Housing Element was reviewed by the California Department of Housing and Community Development (HCD) and approved by the City Council on November 15, 2022 and is available at https://www.alameda2040.org/housing.

Carbon Sequestration

In addition to reducing new GHG emissions, actively drawing down the existing carbon in the atmosphere is also a critical part of mitigating climate change. Applying compost to parks and open areas as well as increasing the size of the urban forest with more trees will help develop carbon sinks that sequester carbon.

Sequestration Strategies

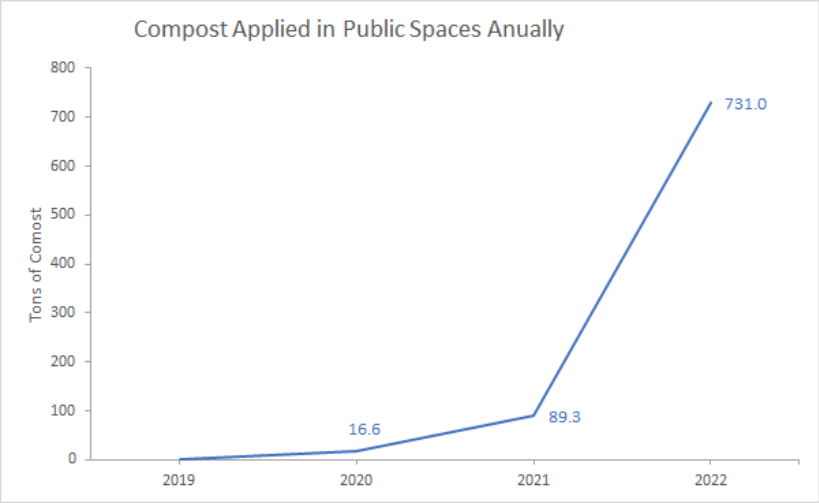
S1: Apply compost to Alameda's parks and open spaces

Diverted organic waste will be processed into compost that will be used in Alameda parks and other open spaces, such as preserved areas in Alameda Point.

Status: Making Progress

In 2022, as a result of SB 1383 compliance and a new sports field maintenance program, the City applied a total of 731 tons of compost in parks and open spaces. CARP assumes that by 2030, the City will apply compost from 13,238 tons of diverted organic waste to vegetated areas each year. By 2050, CARP estimates that the amount of diverted organics will grow to 13,800 tons per year, however this goal assumes all of the food scrap and landscaped materials generated from the City can be composted

and/or mulched and applied in Alameda parks and open spaces. To achieve this, the City would need over 25 million square feet of available land or almost 575 acres. The City has identified approximately 4.6 million square feet of City-owned green space (less than 20% of what is needed to achieve the CARP goal) that could potentially be used for compost and/or mulch application. This number will be further refined after additional analysis and consideration of various factors. To achieve the CARP goal, the City would need significant additional investment and need to partner with private entities.



As of January 2022, SB 1383 requires cities to purchase compost as part of California's Short-Lived Climate Pollutant Reduction Strategy. The CARP goal is more than double the state-mandated target, which is 6,471 tons of recovered organic waste products. This translates to 9,383 cubic yards of compost. In September 2022, Assembly Bill 1985 passed which phases in SB 1383's procurements over time as follows:

- 30% of target for calendar Year (CY) 2023 = 1941.3 tons (2,815 cubic yards of compost)
- 65% of target for CY 2024 = 4206.15 tons (6,099 cubic yards)
- 100% of target for CY 2025 and beyond = 6,471 tons (9,383 cubic yards)

In June 2022, the City Council approved a plan for Fiscal Year 2022-23 to increase compost use in the City and comply with SB 1383. To make progress towards CARP goals and SB 1383 requirements, the City has taken the following actions:

- Prioritized compost application within the City – ARPD has spread compost on sports fields across the City.
- Utilized free compost from Alameda County Industries (ACI) – under the franchise agreement the City is entitled to approximately 1,000 tons of compost at no cost. The City has used this compost on sports fields and for public giveaway.
- Secured a grant for $115,019 – funding will be used to purchase compost for public giveaway and as well as equipment for compost application.
- Secured partnership with StopWaste – the City entered into an MOU with StopWaste to get SB 1383 credit for approximately 100 tons of compost purchased on the City's behalf in 2022. This compost was used for public giveaway across the County and supplied to farms in California to help sequester carbon.
- Identified partners – the City is finalizing agreements with two organizations to help distribute compost to the public.

- Identified additional green spaces within the city for compost and mulch application – staff have identified other City-managed areas that could potentially benefit from compost and mulch application.

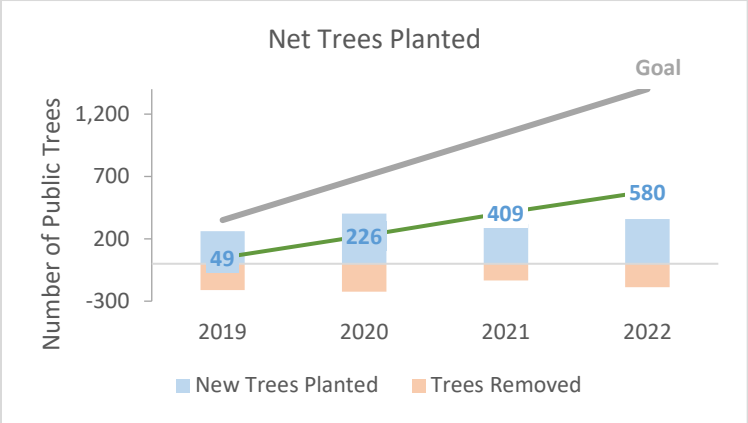
Though the City is prioritizing compost application with the City, full implementation of SB 1383 may require procurement of material for use outside of the city boundaries. Staff will return to Council with options and a proposed approach to continue to increase compost and mulch application and make progress towards CARP goals and SB 1383.

S2: Further develop urban forest

Plant 3,500 additional trees in Alameda by 2030, adding 1,500 trees to the existing commitment of adding 2,000 trees.

Status: Making Progress

In 2022, Parks and Rec and Public Works planted 359 trees and removed 188 for a net gain of 171 trees. The City has now increased its urban forest by 580 trees since 2019 although is still short of its goal of gaining 350 trees per year for a total of 1,400 trees since 2019.

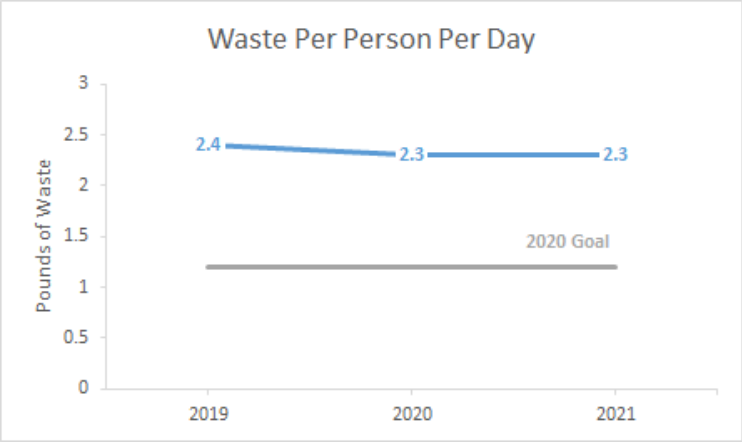


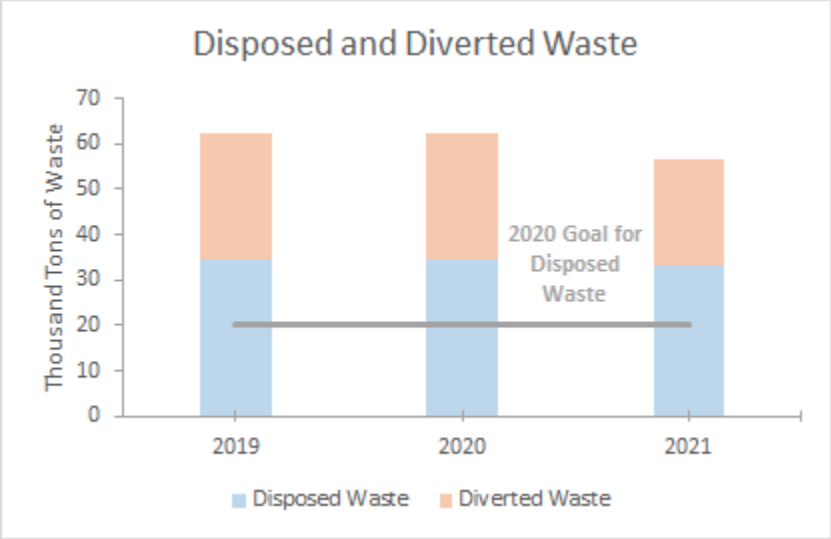
Waste

All physical goods that are consumed and used in Alameda have carbon emissions from their manufacturing and transportation process. Efforts to reduce consumption of goods and reduce the amount of materials sent to the landfill are essential to reducing Alameda's carbon footprint. The Zero Waste Implementation Plan Update supports "zero waste culture" in Alameda, emphasizes a circular economy model and increases diverted waste from landfill.

CARP's zero waste goals are to implement the ZWIP Update to achieve 89% diversion, or 1.2 pounds per person per day of waste disposed in landfill by 2020. The ZWIP Update recommended extending the goal data from 2020 to 2022; however, the City Council kept the original goal of achieving zero waste by 2020. The ZWIP Update found that the City had made steady progress in implementing the ZWIP and "is at the forefront of cities in Alameda County [and nationally] in reducing landfill disposal."

In 2022, as part of the City's Franchise Agreement with ACI and to comply with SB 1383, conducted visual surveys of trash, recycling and compost containers and ACI began issuing notices to residents and businesses to help reduce contamination and increase the amount of material diverted from the landfill.





Disposable Food Service Ware Reduction Law

The COVID-19 pandemic has presented businesses with challenges and interrupted previous measures taken to comply with the Disposable Food Service Ware Reduction Law. Following several months of outreach to restaurants and businesses, the City began enforcement of the City's Disposable Food Service Ware Law to ensure disposable food ware packaging is made from compostable fiber. To support compliance, the City has entered into a five-year agreement with Rethink Disposable to provide technical assistance and grant funding to businesses to switch from disposable to reusable food ware, staff will also continue to educate the public and provide compliance assistance regarding this law.

In 2022, the City Council passed an ordinance to comply with Assembly Bill 1276 to ensure single-use food ware items and condiments are only given out upon request.

As part of the global Plastic Free July campaign, Public Works Zero Waste staff highlighted Alameda businesses on social media who have switched to reusable food ware. The goals were to: promote local businesses who are leaders in environmental responsibility; promote the City's partnership with Rethink Disposable and the free technical assistance and funding available for businesses who switch to

reusables; and reinforce the City's Disposable Food Service Ware Reduction Law that bans single-use plastic food ware.

Adaptation

San Leandro Bay/Oakland-Alameda Estuary Adaptation Working Group

In June 2021, staff convened the San Leandro Bay/Oakland-Alameda Estuary Working Group to coordinate flood and adaptation projects to protect and restore water quality, habitat, and community resilience in the San Leandro Operational Landscape Unit (OLU), which stretches from the Bay Bridge touchdown to Oyster Bay. The San Leandro OLU is one of 30 OLUs along the Bay shoreline identified by SFEI as sharing common physical characteristics that would benefit from being managed as individual units. While OLUs cross jurisdictional boundaries, they adhere to natural and physical boundaries of tides, waves, watershed, and sediment movement.

The Working Group was formed in recognition that adapting to sea level rise requires a holistic effort that crosses jurisdictional boundaries, necessitating collaboration among agencies and communities, and that what we do as a community to address our own shoreline vulnerabilities can potentially impact adjacent communities. Staff also felt that we would be stronger speaking with one voice across jurisdictions and agencies and that the community needed to have a voice and seat at the table from the outset.

The Working Group meets quarterly and brings together more than 30 partners that have an interest in the shoreline within the OLU, including the cities of Alameda, Oakland, and San Leandro, Alameda County, state and regional agencies, community-based organizations, non-profits, UC Berkeley and Assembly member Mia Bonta's office.

A steering committee also meets monthly to set the strategic direction of the working group and set agendas. Subarea working groups are currently forming to focus in more depth in particular locations within the OLU. The San Leandro Bay/Doolittle Drive Subarea working group meets quarterly and staff plan to form working groups for the Estuary, Beaches and Bay Farm Island in 2023 as part of the long-term planning effort.

More information about the Working Group can be found at https://www.alamedaca.gov/AdaptationWorkingGroup.

Funding for Adaptation Projects

Project Description	Funding
Long-term Shoreline Plan and Governance for the San Leandro OLU	$300,000 SFEP $540,000 NFWF
Bay Farm Island Flood Protection and Coastal Resilience Project	$1.5 million FEMA $500,000 City of Alameda

Project Description	Funding
Oakland-Alameda Estuary Adaptation Project	$425,000 Caltrans $75,000 City of Alameda
De-Pave Park Master Plan	$800,000 SFBRA
Total	*$4.14 million*

Long-Term Shoreline Adaptation Plan for San Leandro OLU

To advance the goals of the Working Group, Alameda staff, on behalf of the Working Group, applied for and was awarded two grants from the National Fish and Wildlife Foundation and San Francisco Estuary Partnership totaling $840,000 to develop a long-term vision and adaptation pathways master plan for the entire San Leandro OLU to address sea level and groundwater rise with a focus on nature-based solutions. The project will provide funding to community-based organizations to participate in the process and lead community engagement for the plan.

Bay Farm Island Flood Protection and Coastal Resilience Project

CARP includes two adaptation projects for the northern shoreline of Bay Farm Island (Veterans Court and Lagoon System Outfall) as a first step in the process to work in conjunction with a Doolittle Drive project to protect the airport, golf course, adjacent residential neighborhoods, commercial properties and roadways from flooding and sea level rise.

In 2022, staff applied for and received $1.5 million in funding from the Congressional Community Program under the Department of Homeland Security Appropriations Act 2022 through Representative Barbara Lee's office, with a $500,000 match from the City's General Fund included in the Fiscal Year (FY) 2022-23 budget.

The project will develop 100% designs for the Veterans Court seawall and Lagoon System 1 outfall and develop a long-term adaptation strategy for the Bay Farm Island shoreline with the long-term goal of removing Bay Farm Island from the FEMA floodplain map. The project also seeks to mitigate the impacts of sea level and groundwater rise and consider liquefaction risk, maintain connectivity to/from Bay Farm Island, maintain and adapt existing public recreation space and the Bay Trail, including the wooden bicycle/pedestrian bridge, implement nature-based solutions, such as submerged aquatic vegetation, horizontal levees, and living seawalls; and provide co-benefits such as enhancing wildlife habitat, attenuating wave energy, accumulating sediment, reducing erosion, sequestering carbon, and buffering ocean acidification.

More information about this project can be found at www.alamedaca.gov/BayFarmIslandAdaptation.

Oakland-Alameda Estuary Adaptation Project

The Estuary Adaptation Project is located in the cities of Alameda and Oakland, near the Posey/Webster Tubes and downtown Oakland and Jack London Square. The Alameda shoreline near the Posey/Webster tubes was identified as a priority flooding location in Alameda's Climate Action and Adaptation Plan. In 2022, staff applied for and received $425,000 in funding from the Caltrans Sustainable Communities grant program with a $75,000 match from the City of Alameda.

The project will develop a concept in coordination with community members, stakeholders, and the City Councils of Oakland and Alameda to protect both the downtown Oakland shoreline and Alameda's northern shoreline by Marina Village - including the Posey/Webster Tubes, which is Caltrans State Route 260 property, and the San Francisco Bay Trail - from expected sea level rise and to reduce the impacts of flooding. This Oakland-Alameda Estuary Adaptation Project will piggyback on work done by the Alameda County Transportation Commission for the Oakland Alameda Access Project, which is an improvement project for the Posey/Webster Tubes, and involves many of the same community members and stakeholders in both Oakland and Alameda. The Oakland-Alameda Estuary Adaptation Project will ensure long-term use of this multi-modal transportation system including the Caltrans' tubes, State Route 260, the SF Bay Trail and the adjacent areas for these two diverse communities including disadvantaged populations in both west Alameda and Oakland Chinatown/Downtown Oakland.

More information about this project can be found at www.alamedaca.gov/EstuaryAdaptation.

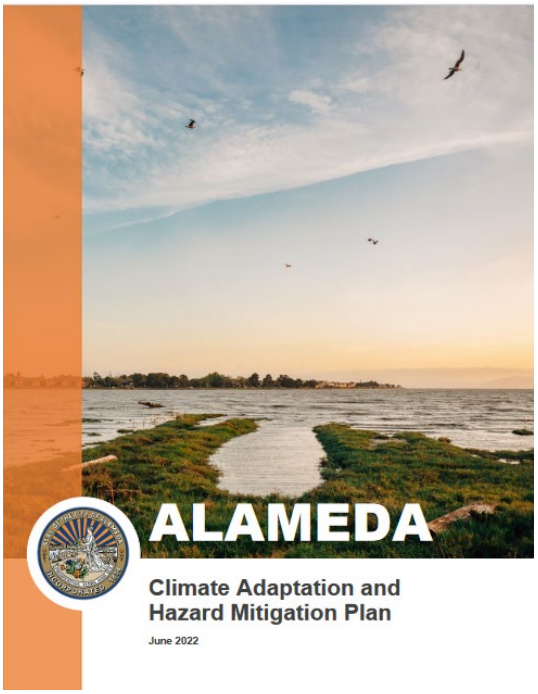
De-Pave Park

De-Pave Park is a 12-acre ecological park in which all existing concrete (from the former Naval Base airfield/runway system) is planned to be removed to create tidal wetlands and wildlife habitat. This park is located on the western side of Seaplane Lagoon at Alameda Point and was originally envisioned and described in the Alameda Point Town Center and Waterfront Precise Plan. In the spring of 2020, the City conducted an input process with local key stakeholders to develop a Vision Plan for the park. The park is intended to create a tidal ecology system that adapts to sea level rise through inundation and includes public access and environmental education. The Vision Plan was approved by the City Council in 2021 and the City was awarded $800,000 from the San Francisco Bay Restoration Authority (SFBRA) Measure AA grant with the scope of work to include an inclusive Master Plan process with broad community outreach using the Vision Plan as a starting point and development of 30% construction documents. An additional component of this grant is for the City to develop agreements with the SF Estuary Institute (SFEI) to provide scientific consultation on the design and implementation plan as well as Literacy for Environmental Justice to develop a Community Stewardship Program framework to implement at a later date with a volunteer and workforce development program that grows plants and manages habitat maintenance. The Master Plan process will take place in 2023.

Doolittle Drive Coordination

As part of the Estuary Working Group, the San Leandro Bay/Doolittle Drive Subarea Working Group continues to meet quarterly with the Port of Oakland, Caltrans, East Bay Regional Parks District, City of Oakland, and community groups to coordinate and align adaptation efforts and expedite development of adaptation projects for Doolittle Drive that achieve multiple benefits for all the stakeholders involved. Doolittle Drive is a significant driver of projected sea level rise inundation for Bay Farm Island. More information about the effort can be found at https://www.alamedaca.gov/ShorelineDoolittleDr.

Climate Adaptation and Hazard Mitigation Plan Update



The Climate Adaption and Hazard Mitigation Plan was adopted by the City Council and approved by the Federal Emergency Management Agency (FEMA) in June 2022. The plan updates the 2016 Local Hazard Mitigation Plan, as required by FEMA, and the Adaptation Chapter of CARP. The plan describes the natural and climate hazards that impact Alameda, their consequences for Alameda and prioritizes actions that would reduce risk from those hazards. Completion of this plan is required to be eligible for federal pre-disaster mitigation grant funds. Following adoption of the plan, Alameda General Plan Safety Element was also updated to align with the plan. The plan can be found at https://www.alamedaca.gov/HazardMitigationPlan.

FEMA requires that the plan and strategies be reviewed annually throughout the five-year plan cycle. As the plan was just completed in 2022, there are no changes to conditions that warrant an update to the plan at this time. Progress updates of the mitigation strategies are provided in **Appendix B** of this annual report. A comprehensive plan update will be completed by 2027.

Legislative Actions

The City of Alameda supported the following State bills related to climate action and resilience in 2022 and will continue to support additional resources to assist in the City's implementation of the CARP.

Transportation

AB 117 (Boerner Horvath)

Current law establishes the Air Quality Improvement Program that is administered by the State Air Resources Board for the purposes of funding projects related to, among other things, the reduction of criteria air pollutants and improvement of air quality. Pursuant to its existing statutory authority, the state board has established the Clean Vehicle Rebate Project, as a part of the Air Quality Improvement Program, to promote the production and use of zero-emission vehicles by providing rebates for the purchase of new zero-emission vehicles. Current law specifies the types of projects eligible to receive funding under the program. This bill would specify projects providing incentives for purchasing electric bicycles, as defined, as projects eligible for funding under the program. The Governor vetoed this bill on September 28, 2022.

AB 1873 (Boerner Horvath)
This legislation would provide a tax credit for the installation of electric vehicle (EV) charging infrastructure in multifamily dwellings. The City of Alameda supports efforts to reduce greenhouse gas emissions including the expansion of electric vehicles and their charging infrastructure. This bill failed to pass out of the Legislature and is now dead.

AB 2438 (Friedman)
AB 2438 requires specific state transportation programs to incorporate strategies from the Climate Action Plan for Transportation Infrastructure (CAPTI) into program guidelines. The City of Alameda supports measures that will assist in the City's implementation of the Climate Action and Resiliency Plan, including through equitable improvements to transportation. The Governor vetoed this bill on September 29, 2022.

SB 922 (Wiener)
This bill will expand California Environmental Quality Act (CEQA) exemptions for transit, bicycle, and pedestrian projects, aimed at accelerating sustainable transportation projects in California. The City of Alameda supports measures that make Alameda safer for pedestrians and bicyclists and increase safety around schools. This bill was signed by the Governor on September 30, 2022.

Waste

AB 1857 (C. Garcia)
This bill updates California's waste diversion law to reflect the current rates of recycling and infrastructure available today. The City of Alameda supports legislation that promotes recycling and landfill diversion efforts, reduces greenhouse gas emissions, and promotes environmental protection and sustainability. This bill was signed by the Governor on September 16, 2022.

AB 1985 (R. Rivas)
This bill would assist local governments in implementing the State's organic waste diversion targets and allow time for markets to develop for organic waste products. The City of Alameda supports additional resources to assist local governments in developing and implementing conservation strategies that maximize available resources and reduce costs; resources to assist in the City's implementation of the Climate Action & Resiliency Plan; and efforts to extend SB 1383 requirements. This bill was signed by the Governor on September 16, 2022.

AB 2026 (Friedman)
The legislation proposed will require an e-commerce shipper that ships in or into California to reduce the total weight and number of units of single-use plastic shipping envelopes, cushioning, void fill, and expanded and extruded polystyrene by January 1, 2030. The City of Alameda supports legislation that will reduce the use of single use plastic and the expansion of existing bans on plastic products. This bill was held on the Senate Appropriations Suspense File and is now dead.

AB 2440 (Irwin)
This bill will require producers of batteries and battery-embedded products to establish a stewardship program for the collection, transportation, recycling, and the safe and proper management of batteries or battery-embedded products in California. The City of Alameda supports legislation that promotes environmental protection and sustainability and efforts that promote and fund recycling and landfill diversion efforts and ensure residents have access to convenient recycling facilities. This bill was signed by the Governor on September 16, 2022.

AB 2784 (Ting)
This legislation would establish minimum recycled content requirements for thermoform plastic containers used by food and beverage producers. The City of Alameda supports legislation that reduces the use of single use plastic and promotes recycling and landfill diversion efforts. This bill was vetoed by the Governor on September 19, 2022.

SB 1046 (Eggman)
This legislation prohibits the sale of pre-checkout bags to a customer unless the bag is compostable or recyclable. The City of Alameda supports the adopted plastic bag and straw bans and efforts to expand existing bans. This bill was signed by the Governor on September 30, 2022.

SB 1065 (Eggman)
This bill would create the Abandoned and Derelict Commercial Vessel Program to prioritize and fund the removal of commercial abandoned and derelict vessels. The City of Alameda supports efforts to enhance funding for estuary and marine debris removal as well as preserve and expand maritime uses for residents and businesses which includes the removal of derelict vessels. This bill was vetoed by the Governor on September 28, 2022.

SB 1215 (Newman)
SB 1215 will expand and modify the existing electronic device recycling statutes to include electronic devices with embedded batteries. The City of Alameda supports legislation that promotes environmental protection and sustainability and efforts that promote and fund recycling and landfill diversion efforts and ensure residents have access to convenient recycling facilities. This bill was signed by the Governor on September 16, 2022.

SB 1255 (Portantino)
This bill would establish the Dishwasher Grant Program for Waste Reduction in K-12 Schools and Community Colleges to provide grants for the purchase and installation of commercial dishwashers at school campuses. The City of Alameda supports efforts that reduce the use of single use plastics and promotes recycling and landfill diversion. This bill was vetoed by the Governor on September 28, 2022.

Climate Resiliency

SB 852 (Dodd)
SB 852 will permit cities, counties, or special districts, either alone or in combination, to establish climate resilience districts. The City of Alameda supports legislation that promotes regional authority to coordinate climate change responses, as well as funding and resources for local agencies to adapt to the impacts of climate change, including addressing sea level rise and flood protection - two of the biggest threats facing our city. This bill was signed by the Governor on September 9, 2022.

Staffing and Partnerships

A full-time Sustainability and Resilience Manager was hired at the beginning of 2021 to lead implementation of the CARP, as recommended in the CARP. This position reports to the Assistant City Manager and provides additional capacity and structure to Alameda's climate and resilience efforts.

The CARP suggests hiring an additional 11 or more full-time employees for full implementation, in addition to existing staff in various departments that already support CARP implementation.

In 2022, a CivicSpark Fellow was hired to support priority CARP implementation efforts, including equitable building decarbonization, and EV charging. While the City Council authorized the hiring of two Fellows, one Fellow who was hired to support the Urban Forest Plan update and sea level rise adaptation efforts has decided not to continue with the program and the funds will be used for other capacity building activities. CivicSpark is a Governor's Initiative AmeriCorps program dedicated to building capacity for local public agencies to address community resilience issues such as climate change, water resource management, housing, and mobility.

Staff also partnered with Community Action for Sustainable Alameda (CASA) to host two college and three high school summer interns in 2022. Interns worked on sea level rise adaptation education and governance and youth advocacy as well as existing building electrification.

Budget and Funding Needs

As stated in the adopted CARP, "to implement GHG and resilience strategies, Alameda will need to use a mix of federal, regional, state, and local dollars and grants." Staff continues to communicate with other agencies and organizations to identify and selectively pursue grant opportunities and to streamline effort. The Capital Improvement Plan (CIP) is a key source of funding for prioritized projects in the near-term. In the coming months, staff will have more clarity on federal infrastructure dollars and related programs that can further help support CARP implementation.

Staff will seek council direction and budget support for the following CARP activities in the FY 2023-25 budget. Additional budget requests related to stormwater, green infrastructure, waste, and transportation are included in their respective departmental budget requests for FY 2-23-25 and CIP process, which supports CARP implementation.

- $124,000 for two CivicSpark Fellows to support CARP implementation in each of the 2023-24 and 2024-25 service years. Each Fellow cost $31,000 per year.
- $24,000 for CASA support/interns in 2023 and 2024. Intern stipends for CASA interns are $6,000.
- $50,000 for community engagement and education for building decarbonization.
- $25,000 for an updated greenhouse gas inventory in 2023.
- $200,000 for 5-year CARP update, including additional groundwater analysis in 2024.
- $133,250 for equitable building decarbonization implementation funded from the Energy Efficiency and Conservation Block Grant Program (EECBG) in the 2021 Bipartisan Infrastructure Law.

In 2023, staff may seek additional grant funding for high priority adaptation projects as feasible as identified in the Adaptation Funding Strategy (**Appendix C**)

Appendix A: Update on 2022 Priorities

Staff identified 15 priorities for CARP implementation in 2022. The following table summarizes the progress made towards those actions.

2022 CARP Priority	Progress
1. Develop an equitable existing buildings energy efficiency and electrification roadmap.	Staff developed an Equitable Building Decarbonization Plan with community input for Council consideration that lays out the process for shifting natural gas use in existing buildings toward clean, energy efficient all-electric buildings in accordance with the City's climate and equity goals. The plan provides a phased approach that includes new policies and programs, financing options, expanded rebates, and community education and outreach. The plan aligns with other citywide efforts to create affordable, safe, healthy and resilient housing and prepare the City to leverage grants and funds as they become available. The plan was recommended for Council adoption by the Planning Board and Public Utilities Board and is available at https://www.alamedaca.gov/BuildingDecarb.
2. Expand public EV charging availability.	Staff is working with a vendor to install Level 2 and DCFC EV chargers in public parking locations across the city with funding from various federal, state and regional programs.
3. Encourage owners to seismically retrofit residential buildings.	Staff completed a cost-benefit analysis of a typical soft-story seismic retrofit and scope of work in preparation for applying for a FEMA hazard mitigation grant in the next funding cycle to provide financial support to soft-story building owners to complete a retrofit of their building. Staff has also been conducting outreach to the public to encourage participation in the California Brace and Bolt program which provides $3,000 grants for seismic retrofit of single-family homes. Households with incomes under $72,080, may also qualify for a supplemental grant that could help pay 100% of the cost of a seismic upgrade.

2022 CARP Priority	Progress
4. Increase compost application.	Staff secured a grant for $115,019 to help the City comply with SB 1383 and increase compost application in the City and began implementation of SB 1383, the state's Short-Lived Climate Pollutant Reduction Law, to reduce methane emissions from landfills and increase recovery of edible food. City Council approved a plan for Fiscal Year 2022-23 to increase compost use in the City and comply with SB 1383. The City has utilized over 1,000 cubic yards of compost for calendar year 2022. Staff is working to finalize an agreement with two organizations to develop a compost hub to help distribute compost to the public. Staff will return to Council with options and a proposed approach to continue to increase compost and mulch application and comply with SB 1383.
5. Develop strategy to phase-in sustainable purchasing requirements.	To comply with SB 1383, the City updated its procurement guidelines to ensure City purchases of paper and paper products include minimum 30% of recycled content for paper and paper products. The City also established a higher standard for white copy paper of 100% recycled content. Staff is continuing to develop a strategy to phase-in additional sustainable purchasing requirements.
6. Complete Doolittle Community Solar Project.	The Doolittle Community Solar Project is a proposed 2.0-megawatt photovoltaic solar facility on an 11-acre portion of the former Doolittle Landfill in the northeastern area of Bay Farm Island. In May 2022, the solar provider NextEra provided notice of a 24 percent price increase to the power purchase agreement (PPA). The increase is primarily driven by inflationary impacts to materials and construction costs. At the July 2022 PUB meeting, AMP staff recommended pausing the project due to the price increase. Staff is evaluating new funding sources from the Inflation Reduction Act that may make the project more cost-effective in the future and plans to update the PUB again in a year.
7. Advance San Leandro Bay/Oakland-Alameda Estuary Adaptation Working Group.	The Estuary Working Group continues to meet quarterly with City of Alameda staff as lead. A San Leandro Bay/Doolittle Drive subarea working group meets monthly and a steering committee was formed that also meets monthly. The Working Group had a field trip to the MLK Jr. Shoreline in May and to the Oakland Airport Perimeter Levee project in September. The Working Group is currently seeking funding as described below.

2022 CARP Priority	Progress
8. Launch development of a citywide adaptation pathway master plan.	The City, on behalf of the Estuary Working Group was awarded $840,000 in grant funding from the National Fish and Wildlife Foundation and the San Francisco Estuary Partnership to develop a vision and long-term adaptation pathway master plan for the entire San Leandro operational landscape unit, including the City of Alameda. The project will kick-off in 2023.
9. Identify funding for priority adaptation projects identified in CARP.	The City has secured $3.3 million in funds for sea level rise adaptation projects in 2022. The City was awarded a $1.5 million FEMA grant funding with a $500,000 local match to develop 100% design for Veterans Court and Lagoon System 1 Outfall adaptation projects as well as develop long-term adaptation pathways for the Bay Farm Island shoreline. The project will kick-off in 2023. In partnership with the City of Oakland, Alameda was awarded $500,000 in funding from Caltrans for concept design and community engagement for adaptation of the Alameda shoreline area near Posey and Webster tubes and Jack London Square area of Oakland. The project will kick-off in 2023. The City was awarded $800,000 from the San Francisco Bay Restoration Authority (SFBRA) Measure AA grant to conduct a Master Plan process for De-Pave Park with broad community outreach. The park is intended to create a tidal ecology system that adapts to sea level rise through inundation and includes public access and environmental education. In 2023, staff will conduct an extensive and inclusive public input process to determine what design, amenities and activities the broader community wants from De-Pave Park.
10. Consider applying for the Cool City Challenge.	In partnership with CASA and the Alameda Marketplace, staff launched an Alameda pilot of the Cool Block Program in five Alameda neighborhoods. The pilot ran in Summer and Fall 2022. In 2023 the City and CASA will evaluate the program to determine if it should be continued and expanded.
11. Develop climate communication and engagement strategy.	Staff intended to include a section on climate communication and engagement in a forthcoming RFP for a citywide communication plan, however the citywide RFP was not released in 2022. Staff will continue to prioritize communication and engagement for specific CARP related projects in 2023.

2022 CARP Priority	Progress
12. Consider placing a climate revenue measure on the ballot.	Staff recommended placing an infrastructure bond on the ballot at the May 10, 2022 Council Meeting, however Council decided to not place an infrastructure bond on the ballot in November 2022.
13. Update Urban Forest Plan.	Selected contractor and kicked-off development of an updated and expanded Urban Forest Plan to be completed in October 2023.
14. Complete Active Transportation Plan.	The City updated the Active Transportation Plan with community input and the plan was approved by the City Council on December 20, 2022.
15. Complete Zero Waste Implementation Plan Progress Report.	Staff is currently developing the Zero Waste Implementation Plan Progress Report with the goal of completing it by summer 2023.

Appendix B: Priority Climate Adaptation and Hazard Mitigation Strategies

The priority climate adaptation and hazard mitigation strategies were adopted in the 2022 Climate Adaptation and Hazard Mitigation Plan. These strategies align with those in the General Plan Safety and Climate Conservation Elements. This appendix serves as the annual report for the plan, as required by FEMA.

Climate Adaptation and Hazard Mitigation Strategies

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
Buildings				
B1. Solar Panels. Encourage installation of solar panels and energy storage equipment in existing and new development and on public property such as the former Doolittle Landfill.	Earthquake Ground Shaking Wind/Storms	AMP	General Plan Policy CC-14	Starting November 1, 2022, AMP began waiving the $300 interconnection fee for residential customers installing new PV systems or new PV systems with battery storage in buildings built before January 1, 2020. This fee waiver does not apply to commercial solar projects or installations greater than 50 kilowatts. The City also launched a new streamlined solar permitting process using SolarApp+ in December 2022 that works in conjunction with the building department's new expedited same day permitting process for electrical service upgrades, heat pumps and EV chargers. With the

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
				new online permitting program, the time to get a solar permit in Alameda will be reduced from a month or more to about an hour. The City also received a $60,000 CEC implementation grant. AMP is working on installing a 2 MW solar project at Doolittle Landfill.
B2. Water Efficiency and Conservation. Minimize water use in existing and new construction and landscaped areas to make Alameda more resilient to drought and generate less wastewater.	Drought	Planning, Building and Transportation Public Works Recreation and Parks	General Plan Policy CC-16	Completed conversion of City Hall's lawn to drought tolerant landscape. Planning conversion at City Hall West.
B3. Rising Groundwater. Prepare for the impacts of rising groundwater levels on private and public property.	Sea Level Rise	Planning, Building and Transportation Public Works	General Plan Policy CC-23, HS-35	Staff is evaluating needed building code updates to respond to rising groundwater and incorporating groundwater considerations into shoreline adaptation projects. Staff is evaluating the need to update its groundwater data and modeling and planning to incorporate it into a CARP update in 2024.
B4. Seismic Retrofit for Private Buildings. Require owners of vulnerable structures, to the extent feasible, to retrofit existing structures to withstand earthquake ground shaking, and require retrofitting when such	Earthquake Ground Shaking Earthquake Liquefaction	Planning, Building and Transportation	General Plan Policy HS-13, Municipal Code Section 13-80.1 to 13-80.16 and	Staff completed a cost-benefit analysis of a typical soft-story seismic retrofit and scope of work in preparation of applying for a FEMA hazard mitigation grant in the next funding cycle to provide financial

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
structures are substantially rehabilitated or remodeled			13-70.1 to 13-70.6	support to soft-story building owners to complete a retrofit of their building. Staff has also been conducting outreach to the public to encourage participation in the California Brace and Bolt program which provides $3,000 grants for seismic retrofit of single family homes. Households with incomes under $72,080, may also qualify for a supplemental grant that could help pay 100% of the cost of a seismic upgrade.
B5. Flood Insurance. Continue the City's participation in the National Flood Insurance Program and the Community Rating System as a Class 8 community. Identify ways to increase Alameda's Community Rating to reduce flood insurance costs.	Flooding Sea Level Rise	Public Works	General Plan Policy HS-14, Municipal Code Section XX - Floodplain Management	The City continued to participate in NFIP and recertified its CRS status as a Class 8 community in 2022.
B6. Flood Proofing for Existing Buildings. Implement programs to encourage flood-proofing retrofits to existing buildings and redevelopment in flood-prone areas.	Flooding	Planning, Building and Transportation	General Plan Policy HS-19	Staff is evaluating needed building code updates for flood mitigation.
B7. Design for Flooding. Implement programs and amend regulations to require and incentivize flood-proofing retrofits to existing buildings in flood-	Flooding Sea Level Rise	Planning, Building and Transportation	General Plan Policies HS-22,	Staff is evaluating needed building code updates for flood mitigation.

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
prone areas, and require all new development to design for sea level and associated groundwater rise based on the most current regional projections.			LU-30, CC-20, CARP	
B8. Building Codes for New Development. Encourage existing properties to minimize the risks of fire and include adequate provisions for emergency access and appropriate firefighting equipment.	Earthquake Caused Fires Earthquake Ground Shaking	Planning, Building and Transportation	General Plan Policy HS-29	The City adopted the 2022 California Building Code with local amendments requiring fire sprinklers in new and substantially modified buildings and requiring that new and substantially modified buildings be all-electric with no gas hookups to reduce the risk of fires following earthquakes, as well as meet GHG reduction goals.
B9. Fire Prevention in Existing Properties. Encourage existing properties to minimize the risks of fire and include adequate provisions for emergency access and appropriate firefighting equipment.	Earthquake Caused Fires	Fire	General Plan Policy HS-29	The City adopted the 2022 California Building Code with local amendments requiring fire sprinklers in new and substantially modified buildings and requiring that new and substantially modified buildings be all-electric with no gas hookups. Staff also developed an Existing Building Decarbonization Plan which recommends exploring policies requiring electrification of existing buildings to reduce greenhouse gas emissions and prevent fires following earthquakes.

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
B10. Building and Infrastructure Standards. Maintain up-to-date building codes and encourage or require new and existing buildings and infrastructure to be designed or retrofitted for timely restoration of service (functional recovery) following an earthquake, with particular attention on the effects of liquefaction on buildings and infrastructure.	Earthquake Ground Shaking Earthquake Liquefaction	Planning, Building and Transportation	General Plan Policy HS-10	The City adopted the 2022 California Building Code and is evaluating needed building code updates for earthquakes and functional recovery standard.
B11. Cool/Green Buildings. Incentivize and consider requiring the installation of cool roofs, green roofs, and/or other energy-efficient cool building methods to mitigate heat impacts and reduce runoff.	Heat	Planning, Building and Transportation	General Plan Policy CC-34	City Council approved revisions to the Design Review ordinance in 2019 exempting green roof, cool roofs, and similar roof treatments from design review, provided the installation does not require modifying the existing roof form or pitch.
B12. Sea Level Rise Protection. Reduce the potential for property damage and loss, and loss of natural habitat resulting from sea level rise.	Flooding Sea Level Rise	Planning, Building and Transportation Public Works	General Plan Policy CC-19	Launching Bay Farm Island adaptation project and Estuary adaptation project and seeking funding for development of a comprehensive shoreline vision and adaptation pathways (see descriptions above).
Infrastructure				

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
I1. Critical Public Assets. Ensure resilience and long-term functionality of critical public assets threatened by earthquakes, sea level rise or rising groundwater.	Earthquake Ground Shaking Liquefaction Flooding Sea Level Rise	Public Works AMP	General Plan Policy CC-22 and HS-12	Launching Bay Farm Island adaptation project and Estuary adaptation project and seeking funding for development of a comprehensive shoreline vision and adaptation pathways (see descriptions above). Also seeking funding for pump station upgrades and green infrastructure improvements to respond to sea level rise.
I2. Water Retention. Develop and maintain large and small areas to retain water within the city that may serve as areas of "retreat" during large storm events.	Flooding Sea Level Rise	Public Works	General Plan Policy CC-24	Staff has awarded $1.5 million grant from the EPA San Francisco Bay Water Quality Improvement Fund for green infrastructure projects associated with paving projects across the city.
I3. Urban Forest. Take actions to maintain and expand the number of trees in Alameda on public and private property to improve public health, reduce pollution, and reduce heat island effects.	Heat	Public Works Recreation and Parks	General Plan Policy CC-26, CARP	Selected contractor and kicked-off development of an updated and expanded Urban Forest Plan to be completed in October 2023.
I4. Lagoons. Continue to preserve and maintain all lagoons as natural habitat as well as an integral component of the City's green infrastructure network and flood control system.	Flooding	Public Works	General Plan Policy CC-32	Seeking funding for lagoon maintenance and adaptation projects to address sea level rise.

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
I5. On-Island Generation. Support development of on-island solar power generation and on-island wind power with appropriately sized generation, storage, and microgrid distribution infrastructure to be able to provide power for a range of uses, including essential functions. Permit renewable energy generation facilities by right in zones with compatible uses and remove financial disincentives associated with the installation of clean energy generation and storage equipment.	Earthquake Ground Shaking Wind/Storms	AMP	General Plan Policy CC-4	AMP is working on installing a 2 MW solar project at Doolittle Landfill.
I6. Public Infrastructure Priorities. Identify public transportation, streets, electric facilities, stormwater and wastewater facilities, open space, shoreline assets, and other public assets vulnerable to sea level and groundwater rise and flooding hazards, and prioritize projects for adaptation funding.	Earthquake Ground Shaking Flooding Liquefaction Sea Level Rise	Planning, Building and Transportation Public Works	General Plan Policy HS-17, CARP	Launching Bay Farm Island adaptation project and Estuary adaptation project and seeking funding for development of a comprehensive shoreline vision and adaptation pathways (see descriptions above).
I7. Green Infrastructure. Require the use of “green infrastructure”, landscaping, pervious surfaces, green roofs, and on-site stormwater retention facilities to reduce surface runoff and	Flooding Sea Level Rise	Public Works	General Plan Policy HS-23, CARP	Seeking funding for pump station upgrades and green infrastructure improvements to respond to sea level rise. Continue planning and permitting development project oversight to

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
storm drain flooding during storm events.				promote inclusion of Green Infrastructure project features in public and private projects
I8. Underground Utilities. Require new development to underground utilities to minimize disruption by fire or other natural disasters.	Earthquake Caused Fires	AMP	General Plan Policy HS-30, Underground Utility District Policy	AMP plans to award a construction contract for undergrounding a 1.1-mile section along Otis Drive and Broadway. AMP plans to recommend that the City Council approve additional undergrounding projects from the list of recommendations received from the District Nominating Board (DNB). This list includes the following areas: - Webster Street - all crossings - Central Avenue to Pacific Avenue including Eagle Avenue - West of Constitution Way; and along Central Avenue from Eighth Street to Webster Street. - Broadway - Buena Vista Ave to Clement Ave - Fernside Boulevard from Encinal Avenue to High Street, - Park Street - San Jose Avenue to Otis Drive.
I9. Lifeline Standard Estuary Crossing. Work with Caltrans, Alameda County, and other regional agencies to retrofit and improve at least one estuary crossing to meet a lifeline standard to ensure access to the larger region for emergency access, equipment supplies, and disaster response and	Earthquake Ground Shaking Liquefaction	Public Works	General Plan Policy HS-11	As a first step, the City is working with the US Coast Guard to seek funds for a feasibility study to potentially demolish or move the adjacent former rail bridge that is at risk of collapse in an earthquake.

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
recovery shortly after a major seismic event.				
I10. Collaboration. Work collaboratively with other jurisdictions and agencies to reduce fire hazards in Alameda, such as post-earthquake fire hazards, with an emphasis on mutual aid agreements.	Earthquake Caused Fires	Fire	General Plan Policy HS-27	Owners of identified soft-story buildings were required to install an earthquake-actuated gas shut-off valve on the building to reduce the likelihood of natural gas fire ignitions in earthquakes. Automatic gas shut-off valves are required any time a permit is issued for gas piping, whenever a property is sold or has a transfer of title. To date, approximately 2,794 permits have been issued for gas shut-off valves in the city. Alameda has purchased two water tenders to use Bay water for firefighting. New tenders should be purchased every 8-10 years.
Land Use				
L1. Groundwater Rise. Review remediation timelines for contaminated sites based on a groundwater model with projected sea level rise impacts. Work with applicable agencies to adjust remediation, as applicable.	Sea Level Rise	Public Works	General Plan Policy HS-35	Published "The Response of the Shallow Groundwater Layer and Contaminants to Sea Level Rise in Alameda" report in 2020.

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
				Implementing priority actions in the report.
L2. Land Development. Require that new development reduce the potential for property damage, and loss of natural habitat, which results from groundwater and sea level rise.	Sea Level Rise	Planning, Building and Transportation	General Plan Policy CC-20	Floodplain ordinance requires special design requirements for new construction in the floodplain and in coastal high hazard areas. 2040 General Plan recommends following California's Ocean Protection Council 2018 Sea-Level Rise Guidance. Green Infrastructure Plan includes requirements for low impact development. Future Actions Future updates of the General Plan will explore and consider more fully this 50-year climate scenario and its implications for Alameda.
L3. Resilient Rights-of-Way and Open Spaces. Design street rights-of-way, parks, other public spaces, street trees and landscaping to be resilient to temporary flooding.	Flooding	Planning, Building and Transportation	General Plan Policy HS-19	Seeking funding for green infrastructure improvements at intersections when completing paving projects.

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
L4. Easements. Require the creation and maintenance of easements along drainage ways necessary for adequate drainage of normal or increased surface runoff due to storms.	Flooding	Planning, Building and Transportation Public Works	General Plan Policy HS-23	No update
Emergency Response				
E1. Heat and Wildfire Smoke Emergencies. Create a network of clean air and cooling emergency shelters throughout Alameda.	Heat Wildfire Smoke	Library Public Works Recreation and Parks	General Plan Policy CC-25, CARP, Emergency Operations Plan	West End Library was upgraded in 2021 with new A/C and air filtration to serve as a Cooling and Clean Air Center in addition to the Main Library and Mastick Senior Center. No further centers have been determined to be needed at this time.
E2. Emergency Preparedness. Maintain emergency management and disaster preparedness as a top City priority.	All Hazards	Fire	General Plan Policy HS-1	Completed Environmental Emergency Plan Annex draft. Draft plan added as an Annex to the Basic Emergency Operation Plan (EOP). EOC training exercises on a City, County, Regional and State level. Training for emergency repair, traffic control, evacuations, shelter in place, crowd control, emergency medical aid, grant reimbursement, etc. Education of City Employees about personal emergency preparedness and mitigation.

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
E3. Tsunami Preparedness. Prepare Alameda for tsunamis and prepare for a timely evacuation with a focus of access and functional needs populations.	Tsunamis	Fire Planning, Building and Transportation	General Plan Policy HS-20	Hired a consultant to help with tsunami evacuation planning. The work scope includes creating evacuation scenarios and meeting with stakeholder partners to improve coordination. Staff is expected to complete the tsunami evacuation planning and partner coordination by spring 2023. Staff will continue with tsunami awareness. The next step is for the City to become a designated Tsunami Ready Community, which will be possible with the City's planned on-going mitigation, preparedness, and response steps. www.AlamedaCA.gov/DisasterPreparedness
E4. Emergency Coordination. Coordinate local emergency preparedness efforts with the Federal Emergency Management Agency, California Office of Emergency Services, Coast Guard, United States Maritime Administration Ready Reserve Fleet, the San Francisco Bay Area Water Emergency Transportation Authority, Alameda County, East Bay Municipal Utility District, the Port of Oakland, adjacent jurisdictions, CalWARN, the Alameda Unified	All Hazards	Fire	General Plan Policy HS-3	Alameda Municipal Power is a signatory on two mutual aid agreements: California Utility Emergency Association (CUEA) and Northern California Power Agency (NCPA) Maintain agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters.

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
School District, the various private schools in Alameda, local hospitals, housing facilities for seniors or individuals with disabilities, and other local and regional police, fire and public health agencies in preparation for natural and man-made disasters, and ensure that the City's disaster response communication technologies are compatible with other agency communication technologies.				Working Relationships and Lifeline Committee Meetings with Caltrans, County, Coast Guard, Ready Reserve, Port of Oakland, San Leandro, Utilities, FEMA, and Other Agencies. Membership in CalWARN Mutual Aid for City-run and independent utilities that provide water and wastewater.
E5. Wildfire Smoke. Prepare for future wildfire smoke events.	Wildfire Smoke	Fire	General Plan Policy HS-61	Adopted and implemented new air quality / smoke response protocols for City staff and employees. West End Library was upgraded in 2021 with new A/C and air filtration to serve as a Cooling and Clean Air Center in addition to the Main Library and Mastick Senior Center. Utilize AC Alert to notify residents about unsafe air quality. Ensure equitable access from all neighborhoods and populations, especially the homeless, elderly, disabled.

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
E6. Emergency Response and Disaster Preparedness. Preserve access for emergency response vehicles to people and property and for evacuation.	Earthquake Ground Shaking Liquefaction Tsunamis	Planning, Building and Transportation Public Works	General Plan Policy ME-9	Coordinated with AC Transit on the locations of vulnerable populations in the City of Alameda including skilled nursing facilities, adult day care and child care facilities. Participated in Bay Area Urban Areas Security Initiative trainings. Continue working with the United States Army Corps of Engineers (Army Corps) to address the public safety hazard posed by the adjacent abandoned Fruitvale rail bridge. Draft letter to Alameda County requesting upgrade to Miller-Sweeney Bridge. Continue coordination with WETA and AC Transit, and will participate in Bay Area emergency response training exercises.
Communication, Community and Coordination				
C1. Public Communication. Maintain and promote community programs to train volunteers, support vulnerable community members like seniors and individuals with disabilities, coordinate with food banks and other local aid organizations, and assist police, fire,	All Hazards	City Manager's Office Fire Police	General Plan Policy HS-4, Emergency Operations Plan	The City of Alameda in partnership with Alameda County Office of Emergency Services (OES) uses AC Alert as the County-wide mass notification system to alert community members of weather-related issues, as well as posting to social media, and the city website. The City encourages the public to opt-in to AC

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
and civil defense personnel during and after a major earthquake, fire, or flood.				Alert and follow the City on social media. Resilience Hub pilot with the MakerFarm at Alameda Point is underway.
C2. Air Quality Alerts. Continue to partner with BAAQMD to enhance awareness of air quality index alerts and related outreach and education to protect the health of residents.	Wildfire Smoke	Fire	General Plan Policy HS-65	The City encourages residents to sign up for AC Alert to receive emergency notifications
C3. Regional Partnerships. Actively participate in regional discussions on groundwater and sea level rise mitigation, infrastructure improvements, and adaptation strategies.	Drought Sea Level Rise	City Manager's Office Planning, Building and Transportation Public Works	General Plan Policy HS-16	Convened the San Leandro Bay/Oakland Alameda Estuary Adaptation Working Group with neighboring jurisdictions, agencies and community-based organizations to coordinate San Leandro Bay/Oakland-Alameda Estuary flood and adaptation projects to protect and restore water quality, habitat, and community resilience. Sub groups are focusing on adaptation of Doolittle Drive and Northern Shoreline near Posey/Webster Tubes. Seeking funding for development of a coordinated and inclusive future-looking subregional organizational structure and action plan with shared vision and needs assessment to accelerate sea level rise adaptation.

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
C4. Collaboration. Work collaboratively with other jurisdictions and agencies to reduce fire hazards in Alameda, such as post-earthquake fire hazards, with an emphasis on mutual aid agreements.	Earthquake Caused Fires	Fire	General Plan Policy HS-27	Maintain agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters.
C5. Neighborhood Resilience Coordination. Consider piloting building electrification, water conservation and other climate initiatives at a block or neighborhood level to more cost effectively transition to climate friendly energy, water, and resource use.	All Hazards	City Manager's Office	General Plan Policy CC-15	In partnership with CASA and the Alameda Marketplace, staff launched an Alameda pilot of the Cool Blocks Program with a group of about 10 cool block leaders. The pilot will run until November and the City and CASA will evaluate the program in 2023 to determine if the program should be continued and expanded.
C6. Social Vulnerability. Prioritize the needs of frontline communities when prioritizing public investments and improvements to address climate change.	All Hazards	All Departments	General Plan Policy CC-2	City uses BCDC Community Vulnerability Analysis to prioritize funding for transportation projects and equity is centered in shoreline adaptation planning through the Estuary Working Group.
Studies and Plans				
S1. Adaptation Pathway Master Plan. Develop an adaptation pathway master plan that includes additional vulnerability studies as needed, economic analysis, groundwater rise	Sea Level Rise	City Manager's Office Community and Economic Development Planning, Building	General Plan Policy CC-21, CARP	The City, on behalf of the Estuary Working Group was recommended for a $300,000 grant from SFEP and submitted a $540,000 proposal to National Fish and Wildlife Foundation

Strategy	Hazard(s) Addressed	Lead Department	Related Policy/ Plan	2022 Status
studies, and other data collection as needed to identify the range of shoreline protection, groundwater management and adaptation strategies over time from short- to long-term as well as land use, building and infrastructure design standards needed to help Alameda adapt to rising sea and groundwater levels.		and Transportation Public Works		to establish a formal group structure and develop a long-term adaptation pathway master plan for the entire San Leandro operational landscape unit, including the City of Alameda.
S2. Rising Groundwater. Prepare for the impacts of rising groundwater levels on private and public property.	Sea Level Rise	City Manager's Office Planning, Building and Transportation Public Works	General Plan Policy CC-23, HS-24, Groundwater Study	The City is evaluating recommended building code amendments to address groundwater rise and seeking funding for green infrastructure projects that can mitigate groundwater rise. Sites will consider current and future groundwater levels in the design.
S3. Flood Hazard Maps. Prioritize the review and publishing for public discussion the latest and most up to date flood hazard and sea level rise forecasts from all trusted sources.	Flooding	Planning, Building and Transportation	General Plan Policy HS-15	The most up to date FEMA flood hazard maps are published and the General Plan includes guidance on planning for sea level rise, following the Ocean Protection Council's guidance.

Appendix C: Adaptation Funding Strategy

Since Alameda is constrained by limited financial resources, staff has prioritized projects using the following nine criteria based on CARP and General Plan goals.

1. The project is grounded in existing policies or listed in adopted plans
    a. High: The project is already listed as an existing policy or strategy in an adopted plan (i.e., Storm Drain Master Plan, Climate Action and Resiliency Plan)
    b. Medium: The project indirectly advances a policy or strategy in an existing adopted plan
    c. Low: The project has not been previously considered in an existing plan
2. The project benefits a community with high social vulnerability, as measured by BCDC's Community Vulnerability Map. Community can refer to a census tract or census block group.
    a. High: The project benefits communities with high or highest social vulnerability.
    b. Moderate: The project benefits communities with moderate social vulnerability.
    c. Low: The project benefits communities with low social vulnerability.
3. The project protects critical infrastructure, transportation routes or public spaces that are used by all members of the community.
    a. High: The project protects critical infrastructure, transportation routes or public spaces that are used by all members of the community
    b. Moderate: The project protects infrastructure, transportation routes or public spaces that are not critical or redundant infrastructure.
    c. Low: The project does not protect critical infrastructure, transportation routes or public spaces that are used by all members of the community
4. The project addresses near-term sea level rise vulnerability.
    a. High: The project addresses a near-term flooding/sea level vulnerability (MHHW+12-24").
    b. Medium: The project addresses a medium-term flooding/sea level rise vulnerability (MHHW+36").
    c. Low: The project addresses a long-term flooding/sea level rise vulnerability (MHHW+48").
5. The project provides co-benefits other than reducing flooding or protecting from sea level rise, such as improving recreational opportunity/access, habitat restoration, water quality, increases community resilience, includes sequestration, transportation safety.
    a. High: The project provides three or more co-benefits
    b. Medium: The project provides 1-2 co-benefits

c. Low: The project provides no co-benefits

6. The project has an identifiable match source to leverage additional funding (through another grant or is identified as a CIP project)
    a. High: The project has an outside grant and been identified as a CIP
    b. Medium: The project has been identified as a CIP
    c. Low: The project does not have a secured match source
7. The project provides opportunities to incorporate nature-based solutions and/or novel approaches to addressing sea level rise.
    a. High: The project is incorporating significant nature-based solutions and a novel approach to addressing sea level rise
    b. Medium: The project incorporates some nature-based solutions and/or a novel approach to addressing sea level rise
    c. Low: The project will include minimal nature-based solutions or is not a novel approach.
8. Project will contribute to removing structures from the FEMA floodplain
    a. High: Project will remove structures from the FEMA floodplain
    b. Medium: Project contributes to removing structures from the FEMA floodplain, but other projects will also need to be completed
    c. Low: Project does not contribute to removing structures from the FEMA floodplain

Rank Scoring

A rank scoring process was developed as a method of prioritizing adaptation projects. For each project, each of the criteria listed above receives a low, medium, or high ranking. The low ranking corresponds to 1 point, medium corresponds to 2 points, high corresponds to 3 points. The resulting points are summed, with a maximum score of 24 points (3 points for each of the 8 criteria). The resulting scores are ordered in the table below from greatest to least, with the greatest score indicating the highest priority project.

Adaptation Project Priority Ranking

Project Name	1. Identified in existing policies or plans	2. Benefits community with high social vulnerability	3. Benefits critical infrastructure	4. Addresses Near-term Sea Level Rise Exposure	5. Provides co-benefits	6. Identifiable match source	7. Nature-based solutions and/or novel approaches	8. Removes structure from FEMA floodplain	Total Rank Score / 24	Currently funded? If yes, what is the source?
San Leandro Bay/Oakland-Alameda Estuary Working Group and Master Adaptation Plan	High	High	High	High	High	High	High	Medium	23	$540,000 NFWF $300,000 SFEP
Critical & High-Use Roadways	High	High	High	High	High	Medium	High	Medium	22	N
Bay Farm Island Adaptation Project	High	Medium	High	Medium	High	High	High	Medium	21	$1.5 million FEMA; $500,000 City of Alameda
Oakland-Alameda Estuary Adaptation Project	High	High	High	Medium	High	High	Medium	Medium	21	$425,000 Caltrans $75,000 City of Alameda
Storm Drain Pipes and Pump Stations	High	High	High	Medium	High	High	Low	High	21	Water Quality and Flood Protection Fee

Project Name	1. Identified in existing policies or plans	2. Benefits community with high social vulnerability	3. Benefits critical infrastructure	4. Addresses Near-term Sea Level Rise Exposure	5. Provides co-benefits	6. Identifiable match source	7. Nature-based solutions and/or novel approaches	8. Removes structure from FEMA floodplain	Total Rank Score / 24	Currently funded? If yes, what is the source?
Alameda Point Perimeter Levee	High	High	Medium	Medium	High	Low	High	High	20	N
Crown Beach and Bird Sanctuary	High	Low	High	High	High	Medium	High	Medium	20	N
Green Infrastructure	High	High	High	Low	High	Medium	High	Medium	20	N
State Route 61/Doolittle Drive	High	Low	High	Medium	High	Medium	High	High	20	N
Bay Farm Island bridge touchdown/ Towata Park	High	Low	High	High	High	Medium	Medium	Medium	19	N
Shallow Groundwater Mitigation	Medium	Medium	High	High	High	Medium	High	Low	19	N
Eastshore Drive	High	Low	Low	Medium	High	Medium	High	High	18	N
Lagoon Intake Pipe	High	Low	High	High	High	Medium	Low	Medium	18	N
Bayview Weir and Outfall	High	Low	Medium	High	High	Medium	Low	Medium	17	N
Powell St Seawall	High	Low	High	High	Low	Medium	Medium	Medium	16	N

Project Name	1. Identified in existing policies or plans	2. Benefits community with high social vulnerability	3. Benefits critical infrastructure	4. Addresses Near-term Sea Level Rise Exposure	5. Provides co-benefits	6. Identifiable match source	7. Nature-based solutions and/or novel approaches	8. Removes structure from FEMA floodplain	Total Rank Score / 24	Currently funded? If yes, what is the source?
BFI Homes Along Lagoon	Low	Low	Low	High	High	Low	Medium	High	15	N
Lagoon Interior Outlet Works	High	Low	Medium	High	Low	Medium	Low	Low	14	N
Dredge Sediment in Lagoon #3	High	Low	Medium	Low	Medium	Medium	Low	Low	13	N
Remove Shoreline Drive Outfalls	High	Low	High	Low	Low	Medium	Low	Low	13	N