

# CLIMATE CHANGE ADAPTATION IN ACTION

## *Incorporating Adaptation to Climate Change in Pinole's General Plan Update*

### Synopsis

Pinole, California has created a blueprint for maintaining its unique character and small-town feel while addressing climate change through its general plan update. Community visioning was an important part of the process, and residents highlighted the importance of preserving locally significant sites, buildings, cultural history and diversity. To plan comprehensively for resiliency and increased development, city officials simultaneously updated the general plan, as well as adopted three specific corridor plans (along Appian Way, San Pablo Avenue, and Pinole Valley Road) and revised the city's zoning code.

The general plan addresses climate change adaptation and mitigation through more than 90 policies and actions, all developed under the umbrella of long-term sustainability. Some of the key strategies include transit-oriented development, water conservation, enhanced resilience to storm events,

emergency response preparedness, habitat restoration and open space protection. Planning for both mitigation of greenhouse gas emissions and adaptation to climate change optimizes the use of limited government resources and promotes resilience and sustainability in Pinole.



Downtown Pinole looking east  
Source: Winston Rhodes, City of Pinole



Source: City of Pinole, 2010

### THE LAY OF THE LAND

The City of Pinole, with approximately 19,000 residents, is located 20 miles northeast of San Francisco, on the San Pablo Bay shoreline. Residents value its small town feel and unique downtown.

## The Story

The City of Pinole's general plan update vision was stated as follows:

Strive to make Pinole a sustainable community where the citizens act as stewards for the environment, the economy, and the social equality of the community, preserving Pinole's historic past, while maintaining a healthy economy for all members of the community now and in the future.

The development of the various draft planning documents took place between 2008 and June 2010 and provide a 20-year blueprint for the city. Planners and residents recognized the need for local governments to play a role in combating climate change by setting policies and developing programs that would guide and mobilize positive community action.

The City of Pinole prepared an environmental impact report (EIR) in accordance with California Environmental Quality Act (CEQA). The primary purpose of the EIR is to evaluate the potential for significant adverse environmental effects that could result from implementing the proposed general plan. The EIR addresses climate change in a separate section that looks at projected impacts for Pinole, relying in part on the San Francisco Bay Conservation and Development Commission's *Living with a Rising Bay* report and the California Climate Action Team's 2009 biennial report. Some climate change impacts identified in the EIR include: changes to the coastline; sea level rise (using estimates from the San Francisco Bay Conservation and Development Commission of 16 inches by mid-century and 55 inches by the end of the century); reduced public access to the shoreline; loss or migration of wetland habitats; increased intensity and frequency of wildfires; impacts on air quality and increased flooding.

The EIR also provides information on City of Pinole emissions obtained through a greenhouse gas inventory completed in 2010. This inventory illustrates

### STAKEHOLDER INVOLVEMENT

The public meetings for the City of Pinole's general plan update focused on the development of a shared vision for the city. The process began in fall 2006, with four public workshops between May and September 2007. At these workshops, residents identified community character, natural resources, open space, health and safety, transportation, and land use as outcomes they wanted to achieve. The first public meeting involved community visioning exercises that engaged participants in questions about what the City of Pinole meant to the participants and what aspects of the city needed improvement. A number of themes emerged, including environmental stewardship, economic opportunity and security, community safety, and social equity. To uphold the values identified during this workshop, it was suggested that the city's general plan focus on sustainability as a guiding principle.



Source: Winston Rhodes, City of Pinole

Pinole's primary sources of energy consumption to help set reduction targets for the city. The EIR evaluates all policies and actions proposed in the general plan update including those that address climate change.

The City of Pinole Planning Department developed three specific plans and a zoning ordinance update concurrently with its general plan update.

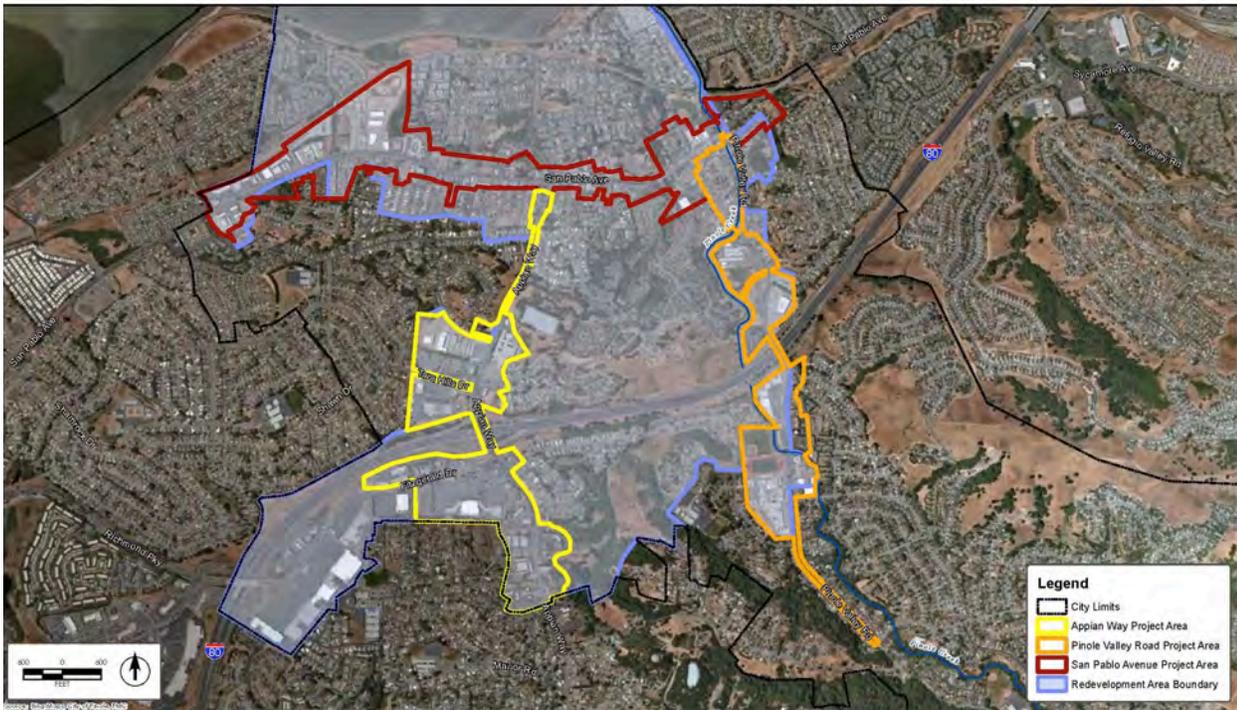
This approach enabled staff members to maintain a consistent and comprehensive vision for the city in planning efforts. A cross-disciplinary seven-member steering committee that included Planning Commission members, a county planner, a building inspector, and experts in public health and architecture provided guidance during the planning process. The steering committee also invited extensive public input. Interest in preparing these plans and ordinances together with the general plan update was driven by stakeholder support for sustainable development within the San Pablo Avenue priority development area (PDA) designated by the Association of Bay Area Governments’ FOCUS program. Development within the PDA was prioritized within the three specific plans: Appian Way, San Pablo Avenue, and Pinole Valley Road. The specific plans focus on encouraging mixed-use development and use of multiple modes of transportation (i.e., pedestrian, bike, bus, car), and making transit more efficient within the city.

The planning process included a greenhouse gas emissions inventory, a comprehensive vision for the city and concrete policies for sustainability that incorporate adaptation to climate change. One of Pinole’s sustainability goals is to “reduce its contribution to climate change and mitigate and adapt to the effects of climate change as appropriate.” Some of the primary climate change adaptation strategies in the plan include water conservation, increasing resilience to storm events, increasing capacity for emergency response, and open space protection. Overall, it includes more than 90 policies and actions, all developed under the umbrella of long-term sustainability, that address both adaptation and mitigation.

“We want our community to develop in a way which, over time, it becomes more sustainable—in a way that the community holds dear,” says Winston Rhodes, planner for the City of Pinole. “Air, water, and climate have direct effects on quality of life, so those were environmental conditions we needed to consider.”



This graphic depicts the planning process steps utilized by the City of Pinole  
 Source: Winston Rhodes, City of Pinole



Specific plans focus transit-oriented development within the Applan Way priority development area, part of the ABAG FOCUS program.  
Source: City of Pinole, 2010

## Adaptation Strategies in the General Plan Update

Many areas of the general plan address adaptation options that provide co-benefits for mitigation, including water conservation, habitat conservation, and restoration.

### Water Conservation

Water delivery and treatment can generate a significant carbon footprint for cities and counties. Pinole's strategies promote water conservation to reduce the community's vulnerability to future unpredictable water supply and water quality issues. Strategies include:

- Maintaining the reliability of the water supply system
- Promoting water conservation
- Investigating new guidelines for water-use restrictions on irrigation systems and drought-resistant or native-plant landscaping
- Encouraging the use of recycled water in Pinole facilities

- Establishing incentives for reductions in water use of 20 percent below 1995 baseline levels for new development

### Conservation and Restoration Measures

The City of Pinole's general plan update also focuses on habitat conservation and restoration measures.

Preserving and enhancing natural areas increases resilience to climate change impacts through enhancement of ecosystem services such as clean water and carbon sequestration. In addition, natural areas provide buffers and transitional zones, particularly along the shoreline. Strategies include:

- Encouraging the use of transitional zones and buffers around sensitive species
- Restoring habitats
- Protecting native vegetation and environmentally sensitive habitats
- Designating certain habitat for long-term protection

## Looking Forward

Conducting the general plan update under difficult financial conditions was a significant challenge for the city, since many city departments struggle to offer basic services. The city council worked to prioritize actions of greatest importance to the city, including restoration of Pinole Creek and completing Pinole's segment of the Bay Trail. Widening and revegetation of Pinole Creek will increase flood capacity and allow for greater migration of steelhead. Another priority action is to finish the city's connection of the Bay Trail project from Hercules to Richmond, which promotes non-motorized mobility and recreational opportunities for residents.

The city is also seeking projects that could bring more funding to its efforts. One such opportunity is through the Association of Bay Area Governments' FOCUS program which may provide funds for re-development projects in priority development areas.

### LESSONS LEARNED

- **The City of Pinole was able to incorporate climate change adaptation into comprehensive planning efforts through a platform of sustainability, a priority identified during a community visioning process.**
- **Developing strategies and policies that achieve both mitigation and adaptation goals can save time and money, as well as maximize community benefits.**



Pinole Creek  
Source: Winston Rhodes, City of Pinole

## Who We Are

This case study was developed through a state–federal partnership of the San Francisco Bay Conservation and Development Commission (BCDC), the San Francisco Bay National Estuarine Research Reserve, and the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center. These agencies are working together to provide information resources and technical assistance to support local governments in planning for climate change impacts.

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## For More Information

For more information on Pinole's planning efforts, go to [www.ci.pinole.ca.us/planning/genplan09/index.html](http://www.ci.pinole.ca.us/planning/genplan09/index.html).

For more information on climate change adaptation planning, see <http://collaborate.csc.noaa.gov/climateadaptation/>.

## Sources

Memorandum of May 21, 2007, to the City of Pinole General Plan Update Steering Committee, Regarding "Public Workshop Progress Report for the Pinole General Plan Update Program."

Pinole, California, General Plan Update, November 2010, available at [www.ci.pinole.ca.us/planning/generalplan.html](http://www.ci.pinole.ca.us/planning/generalplan.html).