

City of El Cerrito
CLIMATE ACTION PLAN

VOLUME 1: Climate Action Plan. May, 2013

The City of El Cerrito serves, leads and supports our diverse community by providing exemplary and innovative services, public places and infrastructure, ensuring public safety and creating an economically and environmentally sustainable future.

Prepared by

City of El Cerrito

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City of El Cerrito

CLIMATE ACTION PLAN

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Executive Summary

The City of El Cerrito is committed to reducing the pollution that causes global warming. Since 2006, the El Cerrito City Council has consistently supported local, regional and state initiatives to cut greenhouse gas (GHG) emissions.* In February, 2011 the City Council passed Resolution 2011-12 adopting GHG emission reduction targets of 15% below 2005 levels by the year 2020 and 30% below 2005 levels by 2035 for both municipal operations and the El Cerrito community.

The City has developed this Climate Action Plan (CAP) due to concerns that the global and local effects of climate change will have adverse impacts on our way of life for generations to come. In addition to providing leadership on this important issue, development of a CAP helps prepare El Cerrito for a quickly evolving legislative framework set by the State as part of its implementation of Assembly Bill 32† (AB 32), the California Global Warming Solutions Act.

Purpose and Scope

The purpose of the CAP is to provide a road map for the City in pursuing both community-wide and municipal reductions in GHG emissions. The objectives are to:

- Provide guidance for the City in pursuing reductions in GHG emissions;
- Provide a policy framework for incorporation of a climate or sustainability element into the City's upcoming *General Plan Update*;
- Inspire residents, businesses, and employees to participate in community efforts to reduce GHG emissions; and
- Demonstrate El Cerrito's commitment to helping the State and the Bay Area reach their mandated GHG reduction goals.

Methodology

Development of the CAP is based on a methodology advanced by ICLEI‡ Local Governments for Sustainability and further refined by the Bay Area Air Quality

* Gases that trap heat in the atmosphere are called greenhouse gases. While there are many natural sources of greenhouse gases, the burning of fossil fuels- such as coal, natural gas, and oil) is a common man-made source of greenhouse gases.

† AB 32, signed by Governor Schwarzenegger in 2006, requires California to reduce statewide GHG emissions to 1990 levels by 2020.

‡ ICLEI is the acronym for the International Council for Environmental Initiatives

Management District (BAAQMD). This methodology investigates the potential of reducing local GHG emissions from transportation, energy consumption, water use, and waste generation at the local level. The CAP models GHG emissions from both community and municipal sources using the baseline year of 2005 and projects the growth in these emissions under a Business-As-Usual scenario and under a Reduction Targets Scenario. The CAP also quantifies potential reductions in emissions from actions taken at both the community and municipal levels.

Sources of GHG emissions in the inventory include the following:

- Energy and water use by residents and businesses (including institutions and governmental agencies);
- Vehicle miles traveled on El Cerrito’s streets, including El Cerrito’s portion of San Pablo Avenue;
- The percent of vehicle miles traveled in Contra Costa County on state highways (excluding San Pablo Avenue), interstates, and other county road that are estimated to be attributable to El Cerrito’s residents, businesses, institutions and governmental agencies;
- Tons of waste sent to the landfill by residents and businesses; and
- Use of refrigerants to air condition buildings and vehicles (municipal sector only).

Baseline Emissions Inventory 2005

The City’s community-wide GHG emissions in 2005 equaled 147,094 tons of “equivalent carbon dioxide” (CO₂e).[§] Emissions from automobile use constitute the single largest source in El Cerrito at 51%. Energy consumption in both the residential and commercial sectors is the second largest source at 44%, with residential energy use being almost twice as much as commercial energy use. Emissions associated with the decomposition of waste from El Cerrito in landfills constitute 5%. Finally, water use, waste water treatment, and municipal refrigerants combined comprise less than one percent of emissions.

Emissions from El Cerrito’s municipal operations are quantified as a subset of the larger

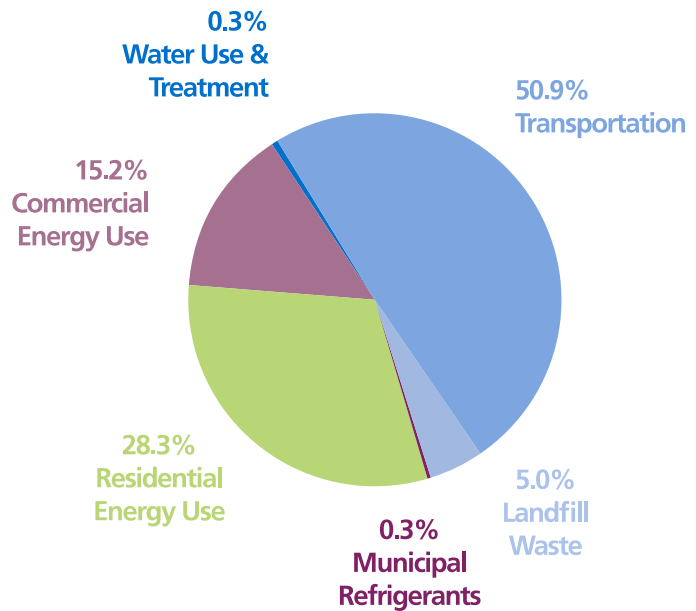


Fig. A: El Cerrito Baseline GHG Emissions (147,094 tons CO₂e in 2005)

§ “Equivalent carbon dioxide” (CO₂e) is the common unit of measurement to describe how much global warming a given type of greenhouse gas may cause.

community emissions baseline and are detailed separately in a chapter dedicated to climate action strategies for municipal operations.

It is important to note that this inventory is not a detailed accounting of all GHG emissions resulting from activities in El Cerrito. Rather, it is meant to provide a replicable snapshot of GHG emissions that can be reliably measured over time and over which local government exercises influence.

Reduction Targets and Emissions Scenarios 2005-2035

Growth in El Cerrito’s GHG emissions have been projected for the years 2020 and 2035 using a “Business-As-Usual” (BAU) trend scenario. This scenario assumes that, absent any new actions to curb GHG emissions, existing growth rates would be representative of

future consumption trends in energy, water, vehicle use, and waste. Based on this methodology, El Cerrito’s GHG emissions are expected to increase by nearly 20,000 tons to 166,995 tons in 2020 and about another 26,000 tons to 192,825 by 2035.

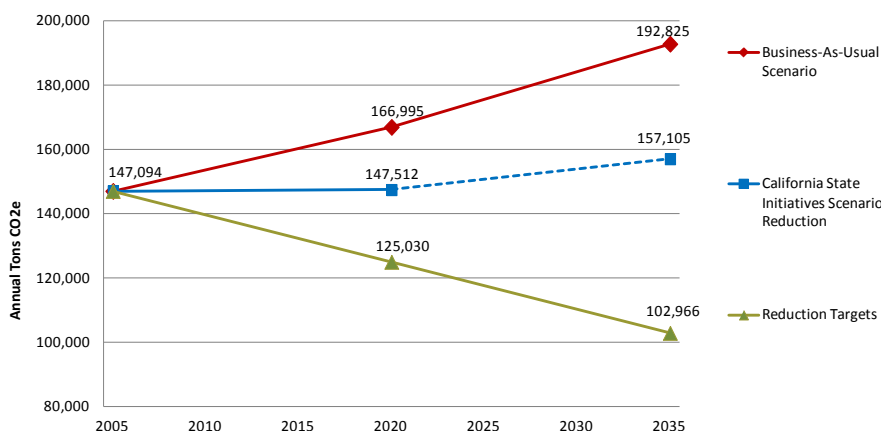
As shown in *Figure B, GHG Emissions Growth Projections and Reduction Targets*, in order to reduce emissions below 2005 levels by the 15% and 30% reduction targets, El Cerrito will need to reduce its overall emissions to 125,030 by 2020 and then to 102,966 tons by 2035. Because the State of California has several initiatives that would help significantly reduce GHG emissions at the local level, El Cerrito will not be shouldering the entire burden of achieving these reductions. These state initiatives are projected to reduce about 19,500 tons of CO₂e from the BAU projections by 2020 and 36,000 tons by 2035.

Once reductions from state initiatives are subtracted from the projected total growth in emissions, El Cerrito

Fig. B: GHG Forecast and Reduction Targets (2005-2035)

	2005	2020	2035
Reduction Targets	Baseline	15%	30%
Reduction Targets in Tons of CO ₂ e		41,965	89,860
Business-As-Usual (BAU) Emissions	147,094	166,995	192,826
Reduction Targets in Tons of CO ₂ e		41,965	89,860
Tons Reduced from BAU Resulting from State Initiatives		- 19,482	- 35,721
Tons Reduced from BAU Resulting from City Initiatives		- 22,483	- 54,139
Total Emissions After Reductions (Tons CO ₂ e)	147,094	125,030	102,966

Fig. C: GHG Emissions Scenarios (2005-2035)



will need to reduce an additional 22,488 tons of emissions by 2020 in order to achieve the 15% reduction target. By 2035, El Cerrito would then need to reduce emissions by an additional 54,139 tons in order to continue the annual trend and reduce emissions by 30% by 2035.

Community Climate Action Strategies

The primary purpose of the CAP is to identify actions the City and community can take to reduce GHG emissions in order to achieve the reduction targets. Under each emission source, the CAP outlines and quantifies CO₂e reductions from a number of goals, objectives and strategies (collectively called “measures”) that will help achieve the reduction targets. The areas of action are summarized below:

- **Transportation:** Land Use, Community Development and Transportation measures to reduce the vehicle miles traveled in El Cerrito by encouraging higher-density, transit-oriented development; making pedestrian- and bicycle-friendly infrastructure improvements; promoting urban greening; and offering trip reduction programs.
- **Energy and Water:** Resource conservation measures designed to achieve greater energy efficiency, water efficiency, and renewable energy in existing and new buildings through education, incentives, and ordinances.
- **Waste:** Waste reduction and recycling measures to increase participation in waste reduction programs, expand recycling opportunities at the Recycling and Environmental Resource Center, and develop a Zero-Waste 2035 Plan.
- **Municipal Operations:** Cross-sector measures to reduce GHG emissions from municipal operations, particularly those associated with transportation, energy and water use, procurement, and waste generation in municipal operations.
- **Adaptation to Climate Change:** While beyond the scope of this plan, the CAP also identifies issues and measures to begin to integrate the projected impacts of climate change into City planning and emergency preparedness processes.

Figure E at the end of this chapter summarizes all the goals and objectives outlined in the CAP, including the estimated tons of CO₂e reduced, assuming robust implementation of these measures.



Implementation

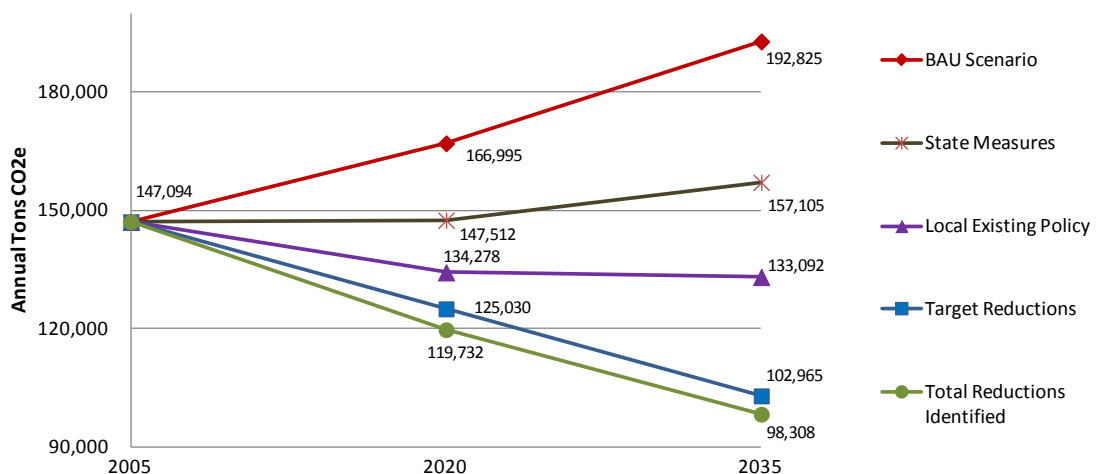
Can We Achieve Our Reduction Targets?

El Cerrito is already making progress towards implementation of the CAP, especially in relation to the CAP’s Sustainable Communities, Waste Reduction, and Municipal Goals. *Figure D, Reductions from Existing and Proposed Strategies*, compares the CAP’s Emissions BAU and Reduction Scenarios against, first, a scenario involving full implementation of only those measures already enabled by existing City policy, and, second, a scenario where the full list of identified measures in the CAP is implemented. The line labeled “Local Existing Policies” quantifies the potential reductions enabled by existing policies, plans, and/or programs, if robustly implemented. Thus, the differential between potential reductions resulting from strategies that have already been enabled and our 2020 reduction target is about 9,200 tons. If the City and other agencies fully implemented the entire list of strategies included in the CAP, the City has the potential to exceed our 2020 goal by 4%, as depicted by the line labeled “Total Reductions Identified.”

The reduction targets are ambitious but achievable if concerted action is taken. For example, the 2020 15% reduction target would be achieved if *all* households took such actions as insulating the attic, converting to Energy Star appliances, driving 19 miles less per week per household member, and actively participating in the City’s recycling and composting programs. Many households in El Cerrito have already enacted and gone beyond these actions and are well on the way toward helping El Cerrito meet its 2035 target. However, it will be more challenging to achieve reductions equivalent to these actions across the entire community.

El Cerrito’s residential nature represents the main challenge that the City faces in combating growth in emissions: instead of focusing efforts on a few large sources, *El Cerrito’s success will come from the many small, aggregated actions taken by its 24,000 residents and 5,700 people who work in El Cerrito.*

Fig. D: Reductions from Existing and Proposed Strategies



Monitoring and Continuous Improvement

Monitoring progress is a key component to meeting our emissions reduction goals. The City's Environmental Services Division (ESD) will track emissions reductions, resource savings, and any other effects of each implemented strategy. Every year, the Environmental Services Division will issue a CAP Implementation Report to update the City Council, residents, and other interested stakeholders on the progress towards implementing CAP objectives. The report will, at a minimum, detail activities to date and any lessons learned, and will make recommendations for changes to the implementation strategy or the CAP itself.

Every five years, a full GHG inventory will be conducted to monitor progress toward our targets. The results of the inventory will be reported to Council in a CAP Implementation Report. Based on the results of the 5-Year GHG Inventory, changes may be made to the CAP to reflect new reduction targets and measures that would ensure the City is on track to meeting its goals.

Financial Considerations and Co-Benefits

Implementing the CAP will require significant investment. The majority of investments will be made by the private sector as developers build projects in El Cerrito, homeowners and businesses improve the energy and water performance of their properties, and people purchase higher efficiency or electric cars and make different choices about their transportation habits. In a majority of cases, these investments will not be made primarily for the purpose of reducing GHG emissions, but rather for their other significant benefits. Many of these strategies will be implemented primarily to increase the quality of life in El Cerrito and/or to create long-term positive outcomes, such as redeveloping under-utilized land along El Cerrito's commercial strip, upgrading and maintaining the existing building stock, and saving consumer costs for fuel, natural gas, and electricity.

In many of these cases, the City will play a significant role in supporting and creating the conditions for the private sector to make these investments. As such, implementing the Plan will also require sustained, strategic public investment by local, regional, state, and federal agencies. While the City can leverage its policy, permitting and leadership functions to help make climate protection the "new normal" in El Cerrito, robust implementation of the CAP will also require outside funding and public/private partnerships.

Figure E: Summary of CAP Goals and Objectives

Goal #	Sustainable Community (SC)	Annual Tons CO ₂ e Reduced	
		by 2020	by 2035
	Summary of Goals and Objectives		
SC-1	Encourage higher density TOD and infill development on transportation corridors		
SC-1.1	Update General Plan and other applicable plans and ordinances to support higher densities along major transportation corridors		
SC-1.2	Develop planning mechanisms to encourage development of higher densities in designated areas		
SC-1.3	Develop a parking demand management strategy to encourage high density development and alternatives to driving		
SC-2	Diversify El Cerrito’s economy to increase El Cerrito’s job base, create greater commercial vitality and more pedestrian-friendly economic activity		
SC-2.1	Create a walkable physical environment that invites people to spend time in El Cerrito’s commercial areas		
SC-2.2	Enhance neighborhood-serving commercial nodes and encourage commercial spaces in mixed-use areas.		
SC-2.3	Encourage adoption of green business practices and attract “green economy” businesses to El Cerrito	10,027	20,378
SC-3	Invest in pedestrian-, bicycle-, and transit-friendly infrastructure		
SC-3.1	Create design standards for bicycle and pedestrian friendly design		
SC-3.2	Maintain an active streetscape improvement and maintenance program		
SC-3.3	Continue implementation of the Ohlone Greenway Master Plan		
SC-3.4	Expand and improve the City’s bicycle and pedestrian infrastructure		
SC-3.5	Work with regional agencies to support improvements and greater access to transit facilities in El Cerrito		
SC-4	Increase and enhance urban green and open space		
SC-4.1	Develop a comprehensive Urban Greening Plan		
SC-4.2	Promote Bay Friendly tree planting and landscaping and open and green spaces, including community gardens		
SC-5	Develop alternative transportation outreach and incentive programs to increase the number of trips made by walking, biking or taking transit.		
SC-5.1	Encourage residents and businesses to adopt trip reduction programs		
SC-5.2	Develop education and outreach campaigns and events to promote walking, biking and taking transit	242	443
SC-State	State transportation measures: fuel efficiency & low carbon content	14,189	27,167
	Total Sustainable Community Reductions Identified (Tons CO₂e)	24,458	47,988

Figure E: Summary of CAP Goals and Objectives (continued)

Goal #	Energy and Water Use (EW)	Annual Tons CO ₂ e Reduced	
		by 2020	by 2035
	Summary of Goals and Objectives		
EW-1	Reduce energy and water use in existing buildings by 20%		
EW-1.1	Promote and provide energy and water efficiency education & incentive programs in El Cerrito	2,736	10,411
EW-1.2	Promote clean energy financing strategies for property owners	887	1,953
EW-1.3	Utilize existing points of interaction with the City to encourage and/or require cost-effective energy and water efficiency improvements	867	3,503
EW-2	Encourage new construction to build to a higher level of green building and energy efficiency than is required by California code		
EW-2.1	Encourage new construction to be built to green building, energy, and water performance standards	445	1,333
EW-3	Reduce reliance on fossil fuel based energy by increasing renewable energy use in El Cerrito		
EW-3.1	Facilitate greater adoption of renewable energy use	1,061	3,566
EW-3.2	Join a Community Choice Aggregation	4,242	6,868
EW-4	Encourage water conservation and efficiency and diversify the community's water supply.		
EW-4.1	Promote and provide water efficiency education & incentive programs in El Cerrito	63	95
EW-4.2	Encourage adoption of rainwater catchment and gray water irrigation systems		
EW-State	State Electricity Measures: Renewable Energy Standard	5,294	8,553
	Total EW Reductions Identified (Annual Tons CO₂e)	15,595	36,282

Figure E: Summary of CAP Goals and Objectives (continued)

Goal #	Waste Reduction (W)	Annual Tons CO ₂ e Reduced		
		<i>existing measures</i>	<i>by 2020</i>	<i>by 2035</i>
Summary of Goals and Objectives				
W-1	Reduce waste going to landfill to 4,000 tons by 2020 and to 2,000 tons by 2035.			
W-1.1	Maximize participation in curbside waste reduction services in the residential, commercial, multi-family, and educational sectors.	3,288	6,324	8,397
W-1.2	Expand one-stop waste diversion options at the Recycling and Environmental Resource Center			
W-1.3	Reduce landfill waste from Construction and Demolition Projects			
W-1.4	Develop and implement a “Zero-Waste” 2035 Plan for El Cerrito			
Total Waste Reductions Identified (Tons CO₂e)			6,324	8,397

Figure E: Summary of CAP Goals and Objectives (continued)

Goal #	Municipal (M) Operations	Annual Tons CO2e Reduced	
		by 2020	by 2035
	Summary of Goals and Objectives		
M-1	Reduce municipal transportation related GHG emissions by 15% by 2020 and 30% by 2035		
M-1.1	Reduce annual VMT associated with employee commutes and field work	100	134
M-1.2	Green the municipal fleet	12	20
M-1.3	Reduce car travel associated with large City-sponsored events	0.63	1
M-2	Reduce reliance on utility provided energy and water in municipal operations by 15% by 2020 and 30% by 2035		
M-2.1	Reduce overall energy and water use in municipal operations	200	334
M-2.2	Install solar energy projects on city buildings	112	140
M-2.3	Use Bay Friendly and Water Smart Irrigation practices and technologies	2	2.4
M-2.4	Convert City landscaped areas to “Bay-Friendly,” drought-tolerant landscapes (includes water, waste to landfill, and fuel savings)	82	113
M-3	Update the City’s project development and procurement practices to ensure the purchase of environmentally preferable projects, equipment, and products		
M-3.1	Update the City’s Environmentally Preferable Purchasing policy and tools	embedded energy, not measured	
M-3.2	Develop a green building ordinance for municipal buildings and projects	embedded energy, not measured	
M-3.3	Maintain an active pavement preservation and management program	embedded energy, not measured	
M-3.4	Reduce refrigerant emissions from City-owned AC units, vehicles, and refrigerators	295	322
SC-4	Make City operations a model of “reduce, reuse, recycle, and compost”		
M-4.1	Institute robust recycling and food waste composting programs in all City facilities	counted in community waste reductions	
M-4.2	Create protocols, tools, and trainings to aid staff in specifying and purchasing recycled-content equipment and materials	embedded energy, not measured	
M-4.3	Institute waste reduction policies and projects for City facilities.	embedded energy, not measured	
State	State Renewable Portfolio and Vehicle Fuel Efficiency Standards	counted in Community Strategy	
	Total Municipal Reductions Identified (Tons CO2e)	803	1,066



CLIMATE CHANGE IN CONTEXT

Climate Change In Context

Introduction

Local governments worldwide are showing leadership in responding to the threat of climate change by taking actions to reduce local sources of the pollution that causes global warming, also known as greenhouse gas (GHG) emissions. By doing so, these communities are reducing their GHG emissions by millions of tons per year. In addition to mitigating the impacts of climate change, these actions have other important benefits, such as resource and cost savings, improved air quality, better public health, and more livable communities.

Since 2006, the El Cerrito City Council has consistently supported local, regional and state initiatives to cut GHG emissions. The following City Council resolutions* create the framework for developing a Climate Action Plan for the City of El Cerrito.

- **Resolution 2006-61** endorsed the U.S. Mayors Climate Protection Agreement, in which local governments agree to take measures to reduce greenhouse gas emissions, including the development of a Climate Action Plan;
- **Council Resolution 2006-93** endorsed the reduction targets of Assembly Bill 32 (AB 32), the California Global Warming Solutions Act; and
- **Council Resolution 2011-12** adopted GHG emission reduction targets of 15% below 2005 levels by the year 2020 and 30% below 2005 levels by 2035 for both municipal operations and the El Cerrito community.

The City has developed the CAP due to concerns that the global and local effects of climate change will have adverse impacts on our way of life for generations to come. In addition to providing leadership on this important issue, development of a CAP helps prepare El Cerrito for a quickly evolving legislative framework set by the State as part of its implementation of AB 32.

Purpose & Methodology

The purpose of the CAP is to provide a road map for the City in pursuing both community-wide and municipal reductions in GHG emissions. The overall objectives of the CAP are to:

- Provide guidance to the City in pursuing reductions in GHG emissions;
- Provide a policy framework for incorporation of a climate or sustainability element in the City's General Plan Update;

Fig. 1.1: Climate Action Planning Process



* See Appendix A, El Cerrito City Council Climate Action Resolutions

- Inspire residents, businesses, and employees to participate in community efforts to reduce GHG emissions; and
- Demonstrate El Cerrito’s commitment to helping the State and the Bay Area reach their mandated GHG reduction goals.

The CAP is not intended to be used as a tiering[†] document for the purpose of streamlining the analysis of GHG emissions under CEQA. However, the CAP should help inform the design of new projects with respect to developing projects that are consistent with the City’s GHG emissions targets.

Development of the CAP is based on a methodology advanced by ICLEI[‡] Local Governments for Sustainability and further refined by the Bay Area Air Quality Management District (BAAQMD). This methodology investigates the potential of reducing local GHG emissions from transportation, energy consumption, water use, and waste generation by:

- Establishing a baseline inventory of emissions;
- Setting a reduction target in comparison to the baseline inventory;
- Outlining the potential GHG emissions reductions of existing and proposed policies, programs, and projects that can be enacted by the City; and
- Implementing the Plan and monitoring the results through subsequent inventories and adjustments.

Public Process

El Cerrito’s planning process started in 2010 and has been informed by input from the public, City Council, and City staff. The City administered a survey[§] of 450 residents (spring, summer, and fall of 2010), held three public workshops in 2010 and one in 2012 to gather community input, and provided numerous updates at publicly noticed meetings of the Environmental Quality Committee (EQC), the City’s citizen advisory committee on environmental issues. Additional comments from the public were solicited during two public workshops and 32-day public comment period prior to the CAP being brought to City Council for adoption.

Climate Change Primer

Rising Concentrations of GHGs Cause Global Warming

Rising concentrations of GHG emissions in the atmosphere are trapping solar radiation and causing earth’s average temperatures to increase. Through the United Nations International Panel on Climate Change (IPCC), the world’s climate scientists have

[†] “Tiering” under CEQA typically refers to the analysis of broad environmental issues associated with development under a plan, program, or ordinance in a program EIR and the subsequent preparation of more narrowly focused individual project EIRs.

[‡] ICLEI is the acronym for the International Council for Local Environmental Initiatives.

[§] See Appendix L, *Climate Action Survey Results*

identified three critical factors about the reality of global warming and its direct relationship to changes in the planet's climate:

- Atmospheric concentrations of GHGs have steadily increased since 1750 and now far exceed pre-industrial levels (see *Figure 1.2, Global Temperature Changes 1860-2000*);
- Global average temperatures have increased markedly over the last 100 years because of increased greenhouse gas concentrations; and
- Human-induced GHG emissions, primarily from the burning of fossil fuels, are the primary driver behind the global warming process.

Given the continued annual increase in global emissions, scientists agree that the planet is now committed to some degree of climate change.¹¹ IPCC scientists agree that in order to avoid dangerous increases in global temperatures, atmospheric concentrations of CO₂ need to be stabilized somewhere between 350 to 400 parts per million (ppm). These concentrations are now at 389 ppm and continue to rise about one-half percent each year.

Rising Global Temperatures Cause Climate Change

Rising global temperatures drive large shifts in the climatic patterns upon which ecological systems and human settlement patterns are based. These changes in the



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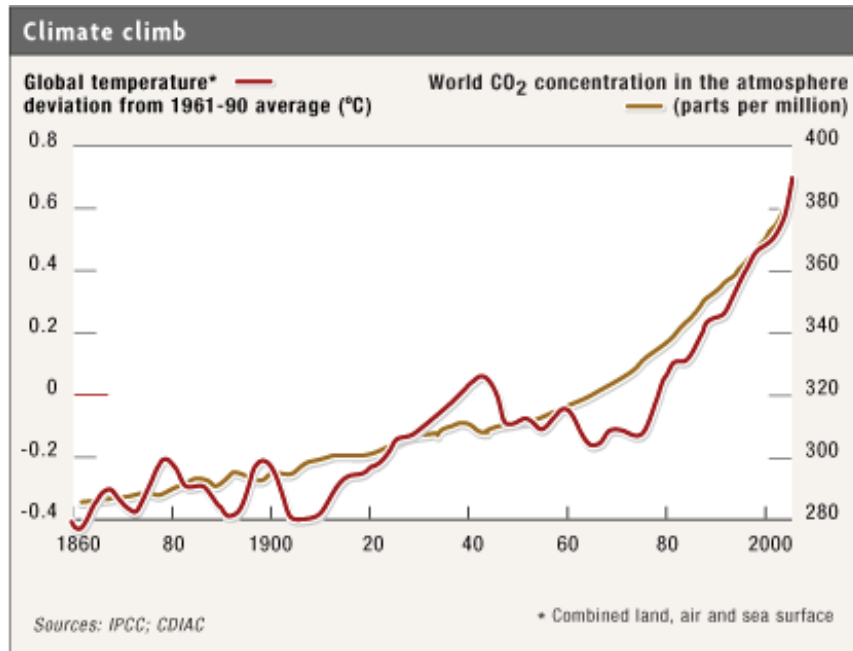
HUMBLE
OIL & REFINING COMPANY
America's Leading Energy Company

ENCO
Great Gas. Great Deals. Great Service.

Humble Oil Ad, *Life Magazine*, Feb. 2, 1962

¹¹ According to the Global Carbon Project, global GHG emissions increased 3% in 2012, emitting the largest amount CO₂e on record. These figures put global emissions higher than the worst case scenario outlined in the 2007 Intergovernmental Panel on Climate Change report on global warming that found that rate of warming was directly connected to rate of emissions. Accessed January 2013. globalcarbonproject.org.

Fig. 1.2: Global Temperature Changes 1860-2000



climate threaten to severely impact the world’s social, agricultural, economic and ecological systems. Potential disruptions include:

- Sea-level rise and coastal storm surges;
- More frequent and extreme weather events such as longer and more intense droughts and more damaging storms; Accessed
- Increase stress on water resources due to droughts, decreased snowpack, and salt-water intrusion into ground water supplies;
- Ecosystem degradation and loss of biodiversity;
- Reduced food security due to droughts, heat waves, oceanic acidification and other stresses on the ecosystems that support food production; and
- Economic and geopolitical disruption due to relocations from extreme weather events, dwindling water supplies and food system failures.

Effects of Climate Change On El Cerrito

Closer to home, new studies and planning efforts have focused on the effects of climate change on Bay Area communities. In particular, these studies have found that extreme storm events in the winter, more severe and unseasonable heat waves in the spring, summer and fall, wildfires, water shortages, and sea-level rise will threaten public health and highly developed local and regional resources. As these impacts change our water supplies, storm water management systems, shorelines, and food systems, California will need to rethink its infrastructure. This CAP is a road map for action that will help mitigate these worse case scenarios. Future updates of the CAP should also include a plan for resiliency in the face of these impacts. See the “Adaptation” section in *Chapter 3, Community Climate Action Strategies*, for more information.

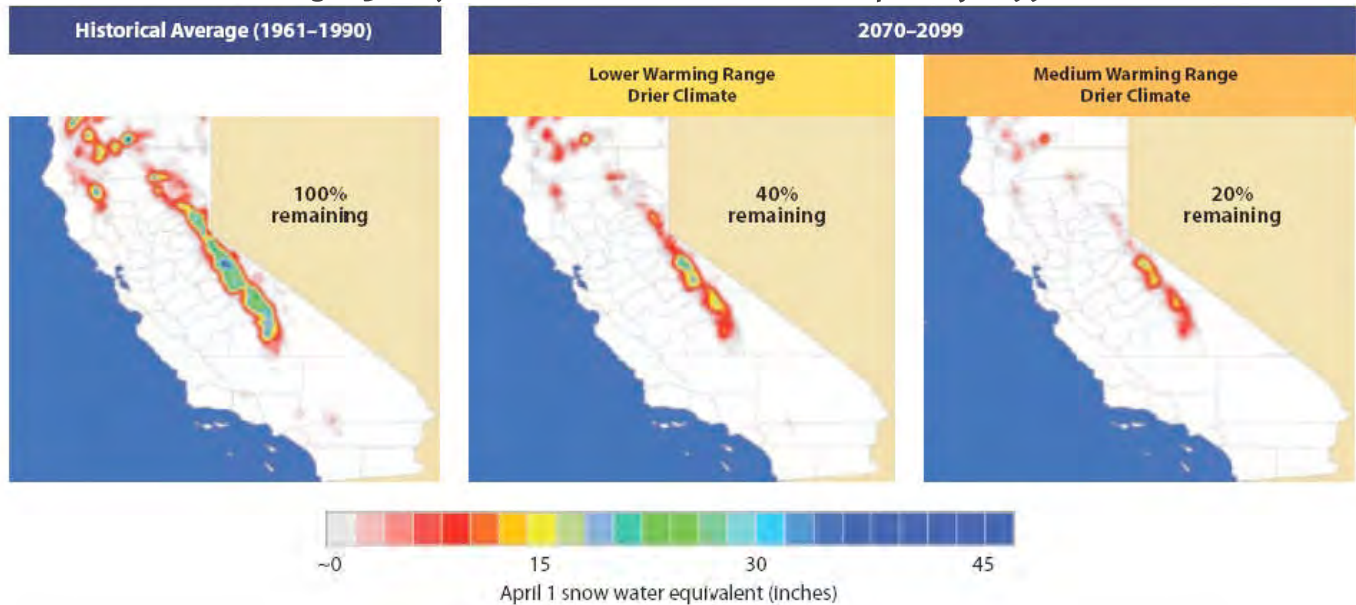
Water Shortages

The East Bay Municipal Utility District (EBMUD) in its *Water Supply Management Program 2040* examined the potential effects of climate change on both water supply and on the utility's storage and distribution systems.** The study indicates that the Sierra snowpack, EBMUD's primary source of water, has shrunk 10% in the last century. By 2050, the snowpack is expected to decrease by 25% and up to 80% by the end of the century under a medium warming scenario (see Figure 1.3, *Projected Decrease in California Snowpack*). In addition to decreases in the annual springtime run-off from the snowpack, EBMUD's water supplies are particularly vulnerable to a projected shift in the run-off from late spring to the winter months.

Sea Level Rise

Sea level rise is caused by the increase in average ocean temperatures and the resulting thermal expansion of ocean waters and the melting of the polar ice sheets. In 2009, the San Francisco Bay Conservation and Development Commission (BCDC) conducted a detailed study of the potential impacts of sea-level rise to the Bay Area's shorelines.†† The study projects increases in sea-level in the Bay Area by 16 inches by 2050 and 55 inches by the end of the century. While El Cerrito does not have any shoreline within its jurisdiction, it has a border that is half a mile from the San Francisco Bay, with all local waterways draining into the Bay. Several low-lying neighborhoods within the City may be inundated under a scenario of 40 inches of sea level rise. Interstate 580 and the surrounding communities of Albany and Richmond could lose more than 200 acres

Fig. 1.3: Projected Decrease in California Snowpack by 2099



** East Bay Municipal Utility District, *The Water Supply Management Program 2040*. April, 2012.

†† San Francisco Bay Conservation and Development Commission. "Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline." April, 2009.



Fig. 1.4: Possible Areas of Inundation due to Sea Level Rise. View over Central Avenue I-80 exit.

of land. The combination of storm surges, sea level rise, and upstream flooding would overwhelm storm water, waste water, and transportation infrastructure and could put the local economy at risk.

Increase Risk of Wildfires

Many factors combine to create a fire hazard. Several critical weather conditions that contribute to heightened risk for wildfires include precipitation, winds, temperature, and vegetation growth – all of which are effected by climate change. Wildfires throughout the American West are predicted to grow in number and size as a result of climate change. The State of California’s Climate Change Center predicts that wildfire risk will increase by 55% in California. El Cerrito maintains an active fire prevention program along its interface with the wild lands of Wildcat Canyon Park and the East Bay Hills. However, responding to more wildfires both at home and throughout California, will put strain on the resources of the City’s emergency response systems.

Public Health Risks

Climate change is expected to have a major impact on public health. First, more high-heat days will increase the risk of people experiencing heat exhaustion. Second, as the climate gets drier, particulate matter in Contra Costa County is projected to increase 23% by 2035,^{##} presenting an increased risk for related diseases such as asthma and lung cancer. Many parts of El Cerrito’s commercial corridor are already considered by BAAQMD to be a Priority Area for toxic air contaminants due to particulate matter from road dust and diesel exhaust from the I-80 corridor. Hotter days will only exacerbate these air quality problems. Finally, hotter conditions increase mosquito-breeding and the potential of mosquito born diseases. With the introduction of West Nile Disease in

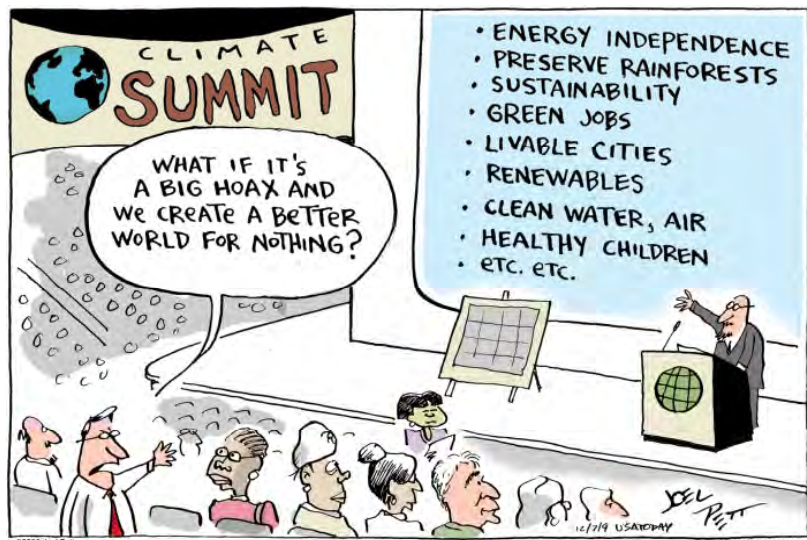
^{##} ABAG. *Building Momentum: Projections and Priorities*. 2009. p. 52

California, vector control districts throughout the state are already evaluating how they can respond to these increased threats.

Multiple Benefits of Climate Action

While the cost of inaction in the face of these serious risks is potentially very high, taking action to reduce greenhouse gas emissions provide many positive benefits for the community. Indeed, these are the same actions that create livable, resilient, and healthy communities and are consistent with many current El Cerrito policies. As will be discussed in future chapters, reducing GHG emissions affect a broad spectrum of activities and provide other tangible benefits, such as:

- Walkable, compact neighborhoods close to transit, jobs, homes, shops, and community;
- Increased local economic activity;
- Greater equity through improved access to jobs, housing, and everyday needs;
- Less time lost commuting in cars to work;
- Healthier citizens that are breathing in less air pollution, biking and walking more, and staying in better shape;
- Greater energy independence, making the community more resilient in the face of energy price hikes; and
- Lower fuel and energy costs for consumers.



“What if...” Joel Pett. The Cartoonist Group.

For instance, in 2005, El Cerritans spent approximately \$48.6 million on energy, fuel, water, and waste disposal. If each household reduced their use of these commodities just 15%, they would have another \$700 per year of disposable income.

State and Regional Regulatory Context

The State has enacted a wide variety of legislation aimed at reducing statewide GHG emissions. From these key pieces of legislation, a regulatory framework that has implications for local governments is beginning to emerge. As such, the relationship between State legislation and local government Climate Action Plans is still in flux, pointing to the need for the City’s CAP to be updated as new legislation and regulation takes shape.

Following is a list of Executive Orders (EO), Senate Bills (SB), and Assembly Bills (AB) and other regulation that informs the development of El Cerrito’s CAP:

EO-S-03-05

Issued by Governor Schwarzenegger in 2005, this Executive Order established targets for reducing GHG emissions to 1990 levels by 2020 and to 80% below 1990 levels by 2050. These targets were established based on the scientific consensus of the scale of reductions needed to achieve climate stabilization.

AB 32, Nunez & Pavley, 2006

Assembly Bill 32, the California Global Warming Solutions Act of 2006, requires California to reduce statewide GHG emissions to 1990 levels by 2020. It directs the California Air Resources Board (CARB) to develop a scoping plan and compliance and enforcement mechanisms that would meet this goal. Since State agencies, such as CARB, the California Resources Agency, and the California Building Standards Commission, set the regulatory framework in which many regional and local governmental agencies must operate, new policies, regulatory and incentive programs affecting local development are taking shape.

California Climate Change Scoping Plan

Required by AB 32, this plan was approved by CARB in late 2008. It quantifies the levels of emissions reductions that are required under AB 32 and outlines the State's plan and primary strategies for reaching that 2020 goal. Strategies include direct regulations, market-based mechanisms such as cap-and-trade, monetary and non-monetary incentives, and voluntary actions.

While the *Scoping Plan* initially targets regulated industries and vehicle technology, CARB “encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the State commitment to reduce greenhouse gas emissions by approximately 15 percent from current levels by 2020.”^{§§} Other *Scoping Plan* recommendations that flow down to regional and local governments include:

- Expanding and strengthening commercial and multi-family recycling;
- Expanding and enforcing green building and energy efficiency code standards; and
- Establishing emissions reduction targets for the transportation sector.

SB 97, Dutton, 2007

SB 97 acknowledges that climate change is a prominent environmental issue that requires analysis under the California Environmental Quality Act (CEQA). It charged the California Resources Agency (CRA) with adopting and certifying CEQA guidelines for mitigating GHG emissions from development projects. Developing guidelines for establishing “thresholds of significance” for evaluating the impacts of GHGs have been delegated to the Regional Air Quality Districts.

§§ California Air Resources Board. *Climate Change Scoping Plan*. December 2008, p. 27.

BAAQMD CEQA Guidelines

As required by SB 97, the Bay Area Air Quality Management District (BAAQMD) developed and adopted new CEQA guidelines for air quality and GHG emissions in June 2010. In addition to criteria air pollutants, toxic air contaminants and odor emissions, the Guidelines provide guidance and a “threshold of significance” for evaluating the GHG emissions impacts of all development projects going through the environmental review process.^{¶¶}

SB 375, Steinberg, 2008

The intent of SB 375, also known as the Sustainable Communities and Climate Protection Act, is to reduce GHG emissions by cutting vehicle miles traveled through compact land use patterns, infill and transit-oriented development. In our region, SB 375 requires the Metropolitan Transportation Commission (MTC) to establish a transportation-related GHG reduction target for the Bay Area and to develop a regional “Sustainable Community Strategy.” Entitled *Plan Bay Area*, this effort seeks to align regional transportation planning efforts and funding, regional GHG reduction targets, land use and regional housing allocations.^{***}

State Actions That Reduce Local Emissions

While the following legislation does not directly affect local governments, it will help all communities reach their reduction targets by decreasing the amount of GHGs emitted from power plants and vehicles statewide.

- **Renewable Power Standard (RPS):** Several pieces of legislation^{†††} require retailers of electricity in California to source at least 20% of their supply from renewable resources (not including power from large hydro-electric dams) by 2010. Executive Order S-14-08 expanded the RPS to be 33% renewable by 2020. This legislation will help all communities reach their building energy goals by decreasing the amount of GHG emissions per kilowatt hour consumed.
- **AB 1493, Pavley, 2002:** This legislation directed CARB to adopt vehicle standards that lowered greenhouse gas emissions to the maximum extent technologically feasible, beginning with the 2009 model year. By increasing the fuel efficiency of light trucks and passenger vehicles, this legislation helps local governments with their reduction goals by decreasing the amount of GHG emissions per vehicle mile driven.
- **EO-S-1-07:** This Executive Order establishes a Low-Carbon Fuel Standard to reduce the carbon intensity of transportation fuels sold in California by a minimum of 10% by 2020.

¶¶ BAAQMD. *California Environmental Quality Act Air Quality Guidance*. June 2010.

*** For more information, visit the Plan Bay Area website at www.onebayarea.org.

††† SB 1078 (2002) and SB 107 (2006) and Executive Order S-14-08



EL CERRITO'S GREENHOUSE GAS EMISSIONS

El Cerrito's GHG Emissions

This chapter quantifies and provides information on the baseline GHG emissions inventory, future growth in emissions, and the impact of reduction targets. Being able to quantify and understand the GHG emissions from activities in El Cerrito is the foundation of the Climate Action Plan. A GHG emissions baseline informs the planning process by:

- Outlining the origins of GHG emissions in El Cerrito and to what extent they are likely to grow;
- Providing a baseline against which to measure progress towards meeting the City's reduction targets; and
- Identifying the greatest opportunities for making reductions.

Setting Targets in a Regional Context

In 2011 the El Cerrito City Council adopted targets for reducing GHG emissions by 15% below 2005 levels by the year 2020 and 30% below 2005 levels by 2035.* El Cerrito's baseline inventory and reduction targets were developed within the context of state and regional climate protection initiatives. The 2005 baseline was chosen as part of a larger effort by ICLEI to complete emissions inventories for cities in Contra Costa County. The 2020 target year corresponds with goals set forth in the AB32 *Scoping Plan*. The 2035 target is generally consistent with other state and regional climate-related planning efforts currently underway, such as the Sustainable Communities Strategy under SB 375.

California's AB 32 *Scoping Plan* recommends that local governments reduce emissions by 15% below an established baseline by 2020. Subsequently, BAAQMD established a new methodology for defining thresholds for GHG emissions based on the AB 32 recommended goal. Per BAAQMD, a Climate Action Plan that is consistent with AB 32 reduction targets, and qualified through the CEQA process as such, could also provide guidance to development projects seeking to streamline CEQA GHG analysis and/or mitigate GHG emissions.

Developing a Baseline

Emissions Counted in the Baseline Inventory

The City developed a 2005 baseline GHG inventory for both community-wide and municipal sources.† This inventory has been subsequently updated to incorporate new BAAQMD guidelines. While the inventory does not include all emissions attributable to El Cerrito residents and businesses, it provides a replicable snapshot of GHG emissions

* El Cerrito City Council Resolution 2011-12 (February 22, 2011).

† Inventory was compiled using ICLEI Local Governments for Sustainability's Clean Air Climate Protection (CACP) software and refined according to BAAQMD's 2010 GHG Plan Level Quantification Guidance.

that can be reliably measured over time and over which local government exercises influence.

Sources of GHG emissions in the inventory, as detailed in *Figure 2.4 (Community GHG Emission Sources)*, include the following:

- Energy and water use by residents and businesses (including institutions and governmental agencies);
- Vehicle miles traveled on El Cerrito’s streets, including El Cerrito’s portion of San Pablo Avenue;
- The percent of vehicle miles traveled in Contra Costa County on state highways (excluding San Pablo Avenue), interstates, and other county roads that are attributable to El Cerrito’s residents, businesses, institutions and governmental agencies;
- Tons of waste sent to the landfill by residents and businesses; and
- Use of refrigerants to air condition buildings and vehicles (municipal sector only).

Emissions from El Cerrito’s municipal operations were quantified as a subset of the larger community emissions baseline and will be discussed in more detail in *Chapter 4, El Cerrito’s Municipal Operations*.

Fig. 2.1: A Snapshot of El Cerrito 2005

Population	23,244
Households	10,340
People per Household	2.25
Businesses / Institutions	522
Number of Jobs	5,750
Square Miles	3.65
Tons CO ₂ e Emissions (US Tons)	147,094

Community Baseline Emissions Inventory 2005

Figures 2.2 and 2.3 (*El Cerrito Community GHG Emissions 2005 Baseline Inventory*) summarize the City’s community wide GHG emissions, which in 2005 equaled 147,094 tons of “equivalent carbon dioxide” (CO₂e).[‡] At 51%, emissions from automobile use constitute the largest source of emissions in El Cerrito. At nearly 44%, energy consumption is the second largest, with residential energy use being almost twice as much as commercial. Emissions associated with the decomposition of waste from El Cerrito in landfills constitute 5%. Finally, water use and waste water treatment (as measured by the amount of energy used per gallon conveyed and treated) and municipal refrigerants each comprise less than one percent of emissions.

Following is a more detailed description of these emissions. The Baseline Inventory is detailed in *Appendix B, Baseline Community GHG Emissions Inventory*.

[‡] “Equivalent carbon dioxide” (CO₂e) is the common unit of measurement to describe how much global warming a given type of greenhouse gas may cause.

Transportation (50.9%)

Transportation emissions are measured using vehicle miles traveled (VMT) in El Cerrito and as a percentage of highway traffic in Contra Costa County. Residents, employees, visitors and those doing business in El Cerrito drove nearly 115 million miles in 2005, producing approximately 74,800 tons of CO₂e. VMT captured in this inventory is not inclusive of all car and truck travel by El Cerritans, but the methodology is replicable and consistent with BAAQMD recommendations.

Residential Energy Use (28.3%)

Collectively, El Cerrito’s households consumed 48.1 million kilowatt hours (kWh) of electricity and 5 million therms of natural gas in 2005, producing 41,620 tons of CO₂e or about 4 tons annually per household. As depicted in *Figure 2.3, Inventory Detail*, residential natural gas use accounts for 20% of emissions alone and is the second largest single source of emissions.

Commercial Energy Use (15.2%)

El Cerrito’s 520 “bricks and mortar” businesses and institutions consumed 68.3 million kWh and 881,000 therms of natural gas, generating over 22,000 tons of CO₂e, 40% of which is produced by the two BART stations.

Water Consumption (0.3%):

In 2005 El Cerrito consumed 945 million gallons of water, or an average of 253 gallons per day per household, and sent half as many gallons of sewage through the Stege Sanitary District to the East Bay Municipal Utility District (EBMUD) for treatment. EBMUD uses 309 kWh to transport 325,851 gallons from the Mokelumne River to the tap and another 457 kWh to treat the same amount of sewage. This energy use produced over 500 tons of GHG emissions.*

While this is not a significant source of emissions, it is included to quantify water conservation goals. As climate

* Green Building Studio & PG&E. “Supply and Demand-Side Water Efficiency Opportunities.” February 2007.

Fig. 2.2: El Cerrito Community GHG Emissions (2005 Baseline Inventory)

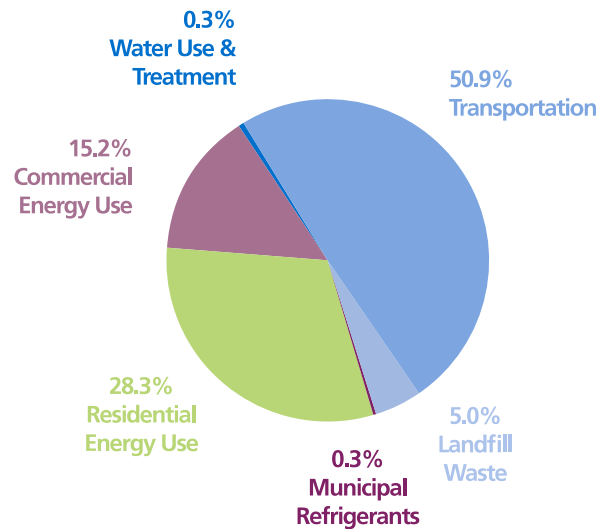
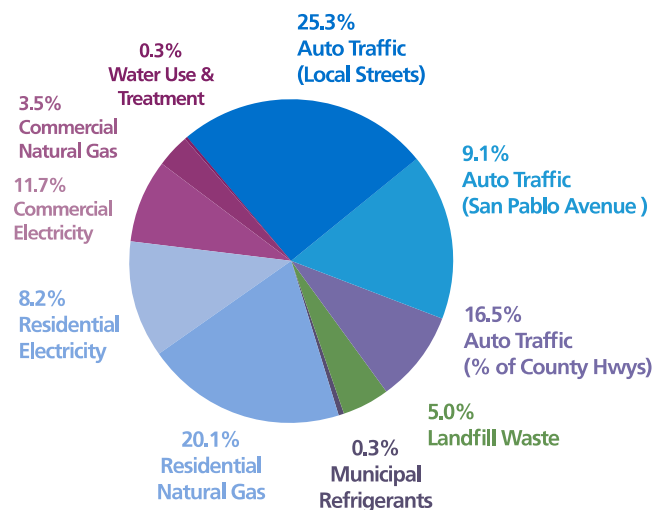


Fig. 2.3: Community GHG Emissions Inventory Detail



change stresses State water supplies, community members will need to conserve this diminishing resource.

Waste in Landfills (5%)

Decomposition of waste in landfills produces methane, which is a greenhouse gas with 21 times the global warming potential of carbon dioxide. In 2005, El Cerrito’s 10,340 households and 520 businesses disposed of 29.5 million pounds of waste (or 1,272 pounds per resident per year), which translates into over 7,300 tons of CO₂e per year.

Municipal Fugitive Refrigerants (0.3%)

Refrigerants can be found in building HVAC equipment, common appliances such as refrigerators, and air conditioning units for vehicles. While it is not possible at this time to quantify the number of all such appliances in the community, it is possible to do so for the City’s municipal operations. Refrigerants (or rather, “fugitive emissions” due to leaks and refrigerant recharging of equipment) was quantified for local government operations in accordance with ICLEI’s Protocol for accounting for GHG emissions in local government operations.

Fig. 2.4: Community GHG Emission Sources (2005 Baseline Inventory)

End Use (2005)	Total Units	Unit	Service Population (SP)	Units per SP	Total Tons CO ₂ e	Estimated Costs
Energy Use						
Residential Electricity	48,148,911	kWh	Household	4,656.57	12,114	\$ 6,018,614
Residential Natural Gas	5,043,720	therms	Household	487.79	29,506	\$ 6,657,710
Commercial Electricity	68,347,754	kWh	Businesses	130,934.39	17,234	\$ 9,568,686
Commercial Natural Gas	880,679	therms	Businesses	1,687.12	5,152	\$ 1,162,496
Energy Subtotal					64,006	\$ 23,407,506
Water Use						
Water Consumed	945,043,396	gallons	Resident, Employee	32,594.45	277	\$3,382,322
Wastewater Treated	661,530,377	gallons	Resident, Employee	22,816.11	234	
Water Subtotal					511	\$3,382,322
Transportation						
Auto Traffic (Local Streets)	57,892,650	VMT	Resident, Employee		37,143	
Auto Traffic (San Pablo Ave)	20,305,753	VMT	Resident, Employee		13,482	
Auto Traffic (% of County Highways)	36,454,614	VMT	Resident, Employee		24,200	
Transportation Subtotal	114,653,017	VMT		3,954.37	74,825	\$16,306,207
Solid Waste	29,558,000	lbs	Resident, Employee	1,271.64	7,302	\$5,500,000
Fugitive Refrigerants	450	CO₂e	Municipal	450.21	450	
				Totals	147,094	\$ 48,596,035

Inventory Versus El Cerrito’s Carbon Footprint

There are other emissions caused by activities within El Cerrito that are not included in the baseline inventory, such as the production and transportation of food and goods consumed in El Cerrito, vehicle travel beyond Contra Costa County, and air travel by El Cerrito citizens.

These emission sources have been excluded from the inventory because they lack reliable data points, are beyond the scope of local government influence, and/or may be easily double-counted by other jurisdictions. However, curbing these emissions is necessary if we are to mitigate climate change. For instance, the US Environmental Protection Agency published a recent study showing that the domestic production and transportation of food and goods accounts for an estimated 42% of all GHG emissions in the United States.* This figure would be even larger if it measured emissions from the international production of goods consumed in the United States.

Because these emissions are not included in the baseline inventory, actions to reduce them do not contribute to our official reduction goals. However, mitigating these emissions should not be overlooked and will be discussed in more detail in Chapter 5, Personal Climate Action. Reducing these unquantified emissions sources include such actions as planting trees, buying environmentally-friendly goods, buying locally grown food, and supporting a more home-grown local economy.

Fig. 2.5: GHG Forecast and Reduction Targets (2005-2035)

	2005	2020	2035
Population	23,244	24,400	26,200
Reduction Targets	Baseline	15%	30%
Reduction Targets in Tons of CO ₂ e		41,965	89,860
Business-As-Usual (BAU) Emissions	147,094	166,995	192,825
Tons Reduced from BAU Resulting from State Initiatives		- 19,482	- 35,721
Tons Reduced from BAU Resulting from City Initiatives		- 22,483	- 54,139
Total Emissions After Reductions (Tons CO ₂ e)	147,094	125,030	102,965
Tons CO ₂ e Per Capita	6.33	5.12	3.93

Growth in Emissions: Business-As-Usual

Projecting emissions growth over time is necessary to quantify total emissions reductions needed to meet reduction targets. El Cerrito’s GHG emissions have been projected for 2020 and 2035 using a “Business-As-Usual” (BAU) trend scenario, which assumes that, absent any new actions to curb emissions, existing growth rates are predictive of future consumption trends in energy, water, vehicle use, and waste. These current numbers then are multiplied by the projected growth in El Cerrito’s population, housing, and workforce[†] to develop a GHG Forecast for future years.

* U.S. Environmental Protection Agency. “Opportunities to Reduce GHG Emissions through Materials and Land Management Practices.” 2009.

† ABAG. *Projections and Priorities*. August, 2009.

Based on this methodology, El Cerrito’s GHG emissions are expected to increase by nearly 20,000 tons to 166,995 tons in 2020 and another 26,000 tons to 192,825 tons by 2035, as show in *Figure 2.5, GHG Forecast and Reduction Targets*. This methodology is further documented in *Appendix D, Community Emissions Forecast*.

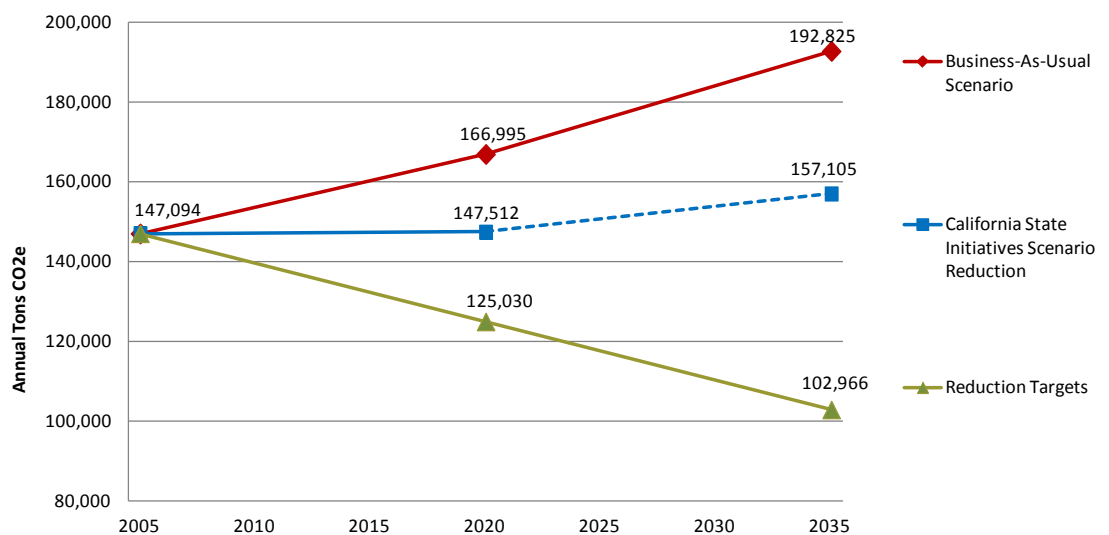
El Cerrito’s Reduction Targets

El Cerrito has adopted targets to reduce GHG emissions 15% below 2005 levels to 125,030 tons by 2020 and by 30% to 102,965 tons by 2035.

Because the State of California has several initiatives that will help significantly reduce GHG emissions at the local level, El Cerrito will not shoulder the entire burden of achieving these reductions. As discussed in *Chapter 1* under “State Actions that Reduce Local Emissions,” the State’s Renewable Power, Low Carbon Fuel, and Vehicle Efficiency standards will help decrease the GHG emissions per kilowatt hour or gallon of gas used. These state initiatives are projected to reduce nearly 19,500 tons of CO₂e from the BAU projections by 2020 and over 35,000 tons by 2035.

As shown in *Figure 2.6, GHG Emissions Scenarios*, once reductions from state initiatives are subtracted from the Business-As-Usual Scenario, El Cerrito will need to reduce an additional 22,500 tons by 2020 in order to achieve the 15% reduction target. Because it is unknown what additional state and/or federal actions might occur by 2035, any further reductions from outside initiatives are assumed to be static after 2020. By 2035, El Cerrito would then need to reduce emissions by an additional 54,000 tons in order to continue the trend and reduce emissions by 30% by 2035.

Fig. 2.6: GHG Emissions Scenarios (2005-2035)





**COMMUNITY
CLIMATE ACTION
STRATEGIES**

Community Climate Action Strategies

A Road Map to Reducing Emissions

The primary purpose of the CAP is to identify actions the City and community can take to reduce GHG emissions to achieve our reduction targets. The City of El Cerrito's role in reducing *community* emissions will be to provide leadership and to leverage its policy, planning, and programmatic functions to encourage additional community action.

El Cerrito's baseline GHG inventory is consistent with its primarily residential character, where the main sources of emissions result from driving to work and other destinations and from residential energy use. This represents the main challenge that El Cerrito faces in combating growth in emissions: instead of focusing efforts on a few large sources, *El Cerrito's success will come from the many small, aggregated actions taken by its 24,000 residents and the 5,700 people who work in El Cerrito.* Actions must be taken at every level to curb and ultimately reverse the growth in GHG emissions.

The City's reduction targets are ambitious but achievable if concerted action is taken. For example, the 2020 15% reduction target could be achieved if all households did the following: insulate the attic, use Energy Star appliances, drive 19 miles less per week per household member, and actively participate in the City's recycling and composting programs. Clearly many households in El Cerrito have already enacted and gone beyond these actions, but it will be more challenging to achieve similar reductions across the entire community.

We could meet our 15% reduction target by 2020 if every household in El Cerrito:

- Insulated their attic
- Converted to Energy Star Appliances
- Drove 19 miles less per week per household member
- Participated in the City's recycling and composting programs
- Or took other actions similar to these

Near-term actions will encourage and/or require residents and businesses to take action to reduce their emissions. But the City will also have to lay the groundwork for a future that is structurally less dependent on fossil fuels, such as:

- Establishing more compact, higher density, mixed-use infill development along major transportation corridors to create more economic activity, serve the daily needs of residents and employees, and decrease daily vehicle miles traveled;
- Creating a transportation infrastructure that invites people to walk, bike and take transit;
- Achieving greater energy efficiency, water efficiency, and renewable energy in existing and new buildings through education, incentives and ordinances;
- Decreasing waste going to the landfill through waste reduction and recycling programs;

- Promoting education and outreach on trip reduction, energy efficiency, water conservation, and waste diversion; and
- Leading by example through increased efficiencies in the City’s operations, buildings and practices.

Many of these strategies are already being advanced by the City as part of its overall push towards a more livable, safe and sustainable community. Any new policies, programs, or projects proposed in the CAP would need to be further defined after the CAP is adopted. Each will go through its own public review, adoption, funding and implementation processes, as needed.

Climate Action in El Cerrito Since 2005

Since 2005, the City has undertaken the following activities to pursue a more sustainable urban form.

- Completed 158 units and entitled 185 units of multifamily housing along the San Pablo Avenue corridor, including 56 affordable units
- Worked with CalTrans to take possession of sidewalks on San Pablo Avenue, aka State Route 123.
- Completed the award-winning San Pablo Avenue Streetscape Improvement Program, including improved pedestrian access and street furniture, upgraded bus stops, 75 new bicycle racks, new Bay-Friendly median and sidewalk plantings that save 1.5 million gallons of water per year, new rain gardens to clean storm water run-off
- Leveraged the restoration of the Cerrito Theater to catalyze private investment on the “Theater Block”
- Restored Baxter Creek and created Baxter Creek Gateway Park
- Extended Ohlone Greenway to connect with the Richmond Greenway
- Adopted the Ohlone Greenway Master Plan
- Secured funding to construct the Ohlone Greenway Nature Play Park near the El Cerrito BART Station
- Adopted El Cerrito’s first Circulation Plan for Bicyclists and Pedestrians
- Completed 75% of bike facility improvements identified in the Circulation Plan
- Adopted a Bicycle Parking Ordinance for new development
- Worked with El Cerrito Trail Trekkers to restore and extend the City’s network of public paths and trails
- Planted 1,160 street trees
- Drafted the San Pablo Avenue Specific Plan in partnership with the City of Richmond
- Secured funding to develop a comprehensive Urban Greening Plan
- Adopted an Animal Ordinance to allow the raising of chickens, goats, bees and other animals for the purposes of hobby-level sustainable food production

Land Use, Transportation and Community Development

As is the case throughout California, automobile use is the largest single source of emissions in El Cerrito, comprising 51% of total GHG emissions. As discussed in Chapters 1 and 2, several state initiatives are aimed at reducing a portion of these emissions. The AB 32 *Scoping Plan* articulates a three-pronged strategy towards reducing emissions from the transportation sector: (1) increasing the fuel efficiency of vehicles, (2) reducing the carbon content of the fuel these vehicles burn, and (3) reducing the miles these vehicles travel. Improvements in vehicle fuel efficiency and the carbon content of fuel, although out of the sphere of local government policy, will provide nearly half the reductions in GHG emissions from passenger vehicles in El Cerrito by 2020 and more than two-thirds the reductions by 2035.

Regional and local governments have been asked to help with the third prong: reducing the number of miles Californians drive. It is the intent of SB 375, the Sustainable Community Strategy, to achieve these reductions at a regional and local level by advancing an integrated approach to land use and transportation which relies on a better jobs/ housing balance, and compact, transit-oriented development.

In order to make the City’s GHG emissions reduction goals, we will need to reduce vehicle miles traveled (VMT) in El Cerrito by roughly 1,000 miles per year per resident and employee in El Cerrito, or just 19 car miles per week per person. Many El Cerritans would be able to make these reductions by making minor changes in their transportation habits, such as taking transit to work 1 or 2 days per week. However, effecting these reductions throughout the community will require not only a change in people’s habits, but also changes in land use, development patterns, and public places that would make it easier for residents and workers to leave their car behind.

The following goals and strategies will assist the City in creating the foundation for vibrant public spaces and higher density, transit-oriented development. At the end of this section, *Figure 3.4, Sustainable Community: Summary of Goals and Objectives* summarizes the emissions reduction potential of each objective.



El Cerrito’s “Theater Block” area on San Pablo Avenue. Streetscape improvements help support businesses and attract business investment.



SUSTAINABLE COMMUNITY GOAL #1:

Encourage more compact, higher density infill development along transportation corridors to reduce vehicle miles traveled in El Cerrito and beyond.

The most effective way to both accommodate growth and reduce VMT is to site new, higher density development near transit. Urban design studies are finding that higher residential densities lower household VMT between 5% to 12%, and as much as 25% if coupled with mixed uses, good design, higher parking fees, access to good public transit that links residents to higher employment centers, and other supportive transportation demand management measures. These studies have been used to inform the estimated VMT reductions from the measures listed below.

Fortunately, El Cerrito is a transit-rich community that has been proactive in creating policy that will allow for higher density, transit-oriented development along the San Pablo Avenue corridor. The following plans and actions have been developed and taken to transform El Cerrito's land use patterns to a compact, pedestrian-friendly community. An upcoming *General Plan Update* will further integrate these plans and the policies in this CAP.

- The *El Cerrito General Plan* (1999);
- Designation of the San Pablo Avenue corridor as a regional Priority Development Area (PDA) in 2007;
- The *Pedestrian and Bicycle Circulation Plan* (2007);
- The *Ohlone Greenway Master Plan* (2009); and
- The *San Pablo Avenue Specific Plan* (under review).

However, these planning efforts can only bear fruit in a market that can support such development. The land, buildings, and infrastructure along the City's transit corridors are under utilized and do not meet present market conditions for higher density and multi-family development. As such, the success of El Cerrito's transportation and planning initiatives will rely heavily on private sector investment, as well as strategic investments from the public sector to create an attractive environment for multi-family development.

* National Research Council. *Driving and the Built Environment: The Effects of Compact Development on Motorized Travel, Energy Use, and CO₂ Emissions*. Special Report 298. 2009.

Objective SC-1.1:

Update the El Cerrito General Plan and other applicable plans and ordinances to allow greater residential and commercial density along major transportation corridors and establish Transit Oriented Development (TOD) near both BART stations.

Adopted in 1999, El Cerrito’s *General Plan* provides the policy framework for more compact, pedestrian-friendly urban development along transportation corridors. Since then, the City has continued to study the relationship between market demand and residential/commercial densities, developing both the *San Pablo Avenue Specific Plan* and TOD studies to further define the balance between densities, building heights, and parking requirements along San Pablo Avenue. These studies confirm that multi-family residential development is the “highest and best use” along the corridor, but there remains a need for greater residential density, parking demand management.

Under SB 375, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) are developing a Sustainable Communities Strategy (SCS), entitled *Plan Bay Area*, as part of a regional process that intends to harmonize the Regional Transportation Plan with land use and the Regional Housing Needs Allocation (RHNA). The strategy looks at modeled VMT reductions from different growth scenarios throughout the Bay Area and proposes transportation and RHNA goals to achieve them. According to these scenarios, El Cerrito will grow to include 1,400 additional households and 700 new jobs between 2010 and 2040, with the San Pablo Avenue Priority Development Area (PDA) absorbing 95% of this local growth.[†] This is consistent with the density increase being investigated as part of the *San Pablo Avenue Specific Plan* and *General Plan* update.[‡]



Mixed-use, compact development along San Pablo Avenue

Strategies to implement this objective include:

- E** Utilize the results of the *San Pablo Avenue Specific Plan* and TOD studies to inform the *General Plan Update*.
- E** Continue to participate in the development of the Bay Area SCS’s *Plan Bay Area* process.

- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

[†] ABAG, MTC. *Plan Bay Area: Preferred Land Use and Transportation Investment Strategy*. May 2012.

[‡] The *Plan Bay Area* projection for El Cerrito is actually less than the generic growth projections contained in the ABAG 2009 *Projections and Priorities* report that was used to develop the CAP’s BAU growth scenario.

- E** Position El Cerrito to be competitive for SCS *Plan Bay Area* Grants by developing a *Complete Streets Plan* and implementing the City’s 2007-2014 *Housing Element* to facilitate the development of housing to meet regional housing needs.
- E** Continue to pursue developments of TOD in both the Del Norte Station area and El Cerrito Plaza areas.
- P** Partner with all regional transportation agencies serving west Contra Costa County to develop a congestion relief plan that mitigates automobile and parking impacts at the Del Norte Station area.

Objective SC-1.2:

Create planning mechanisms and development standards to encourage the right mix of high density, mixed-use and affordable housing development along major transportation corridors.

In 2011 the City conducted a feasibility analysis for multi-family housing along the corridor, taking into account the unique market forces and land constraints affecting development in El Cerrito. A key recommendation of this study is that many factors impact the density, and perception thereof, of projects, such as requirements governing setbacks, open space, parking ratios, and ground floor uses and design. “Rather than choosing the ‘perfect’ density for the corridor, focus on creating the design guidelines that create a livable neighborhood for all residents.”[§]

Strategies include:

- E** Strive to meet the City’s Regional Housing Needs Allocation goal for 2014 and 2012.
- P** Develop regulatory programs and incentives, such as an inclusionary housing ordinance[¶] and/or other innovative approaches to ensuring the creation of mixed-income housing in new multi-family development.
- P** Develop strategies to streamline planning entitlement processes in targeted PDA areas.
- P** Revise development standards along major transportation corridors to encourage higher density development.
- E** Prioritize potential development sites along the Avenue and work with owners to redevelop their parcels.
- E** Assist and collaborate with non-profit, private and public entities to maximize opportunities to develop affordable housing.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects

§ AECOM. “El Cerrito Development Feasibility Analysis,” Memorandum to Lori Trevino, City of El Cerrito. November 28, 2010.

¶ Inclusionary housing policies require a certain percentage of all new housing to be made affordable to lower income households, enabling cities and counties to provide a fair share of the region’s low and moderate income housing need.

Objective SC-1.3:

Develop and implement a parking demand management strategy in TOD areas that both responds to market conditions and encourages higher density development along transit-oriented corridors and alternatives to driving.

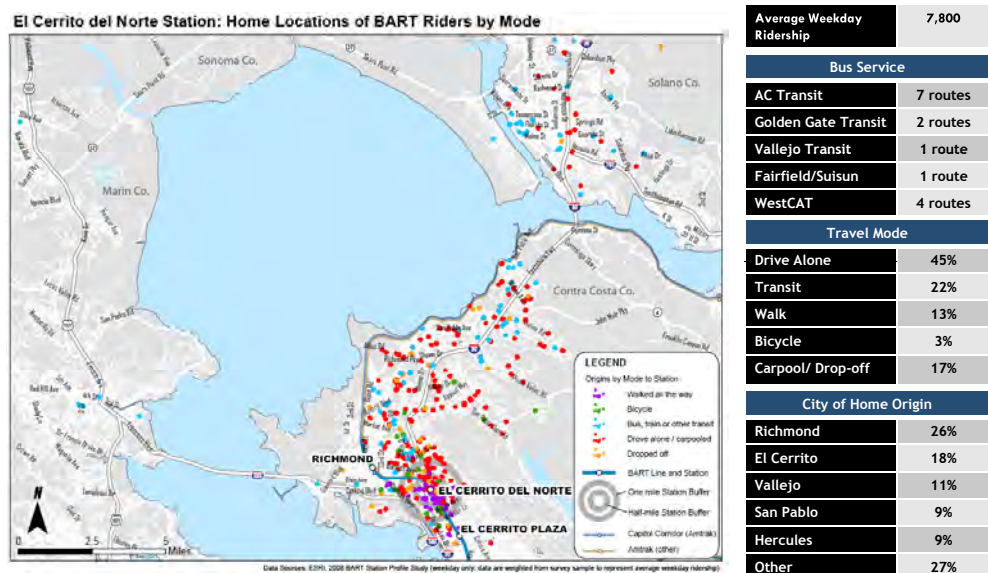
While El Cerrito does not currently have enough demand for parking in its business districts to merit near-term parking management strategies (except during commute hours near the BART stations), a strategy to phase in parking demand management will help maximize its effectiveness as a GHG reduction tool. El Cerrito’s TOD feasibility study concluded that with higher residential densities around the BART Stations, San Pablo Avenue would become more urban in character, leading to a reduction in car ownership and increased pedestrian-oriented commercial activity. By managing the existing parking supply more effectively while densifying the corridor, demand for parking would decline.

Strategies include:

- P** Consider instituting parking pricing strategies around the BART stations, particularly the Del Norte Station where a majority of commuters drive alone to the Station and come from outside El Cerrito and other adjacent cities.
- P** Allow building owners to unbundle parking to be rented separately from the building space.
- P** Allow on-street parking to meet off-street parking requirements.
- P** Consider instituting flexible parking requirements for transit-oriented development that provides services, infrastructure and/or mitigations to reduce parking demand, such as:

- Access to car sharing and bicycle sharing programs;
- Dedicated parking for low carbon fuel vehicles;
- Resident and/or employee transit incentives;
- Certification under regional trip reduction programs; and
- Higher than required bicycle parking.

Fig. 3.1: Del Norte BART Station. Home Locations of BART Riders by Mode



See Appendix K: Home Locations of BART Riders by Mode for a larger format version of this graphic



SUSTAINABLE COMMUNITY GOAL #2:

Increase El Cerrito’s economic base to create more jobs, encourage greater vitality and more pedestrian-friendly economic activity.

The Climate Action Survey conducted by the City in 2010 revealed that an overwhelming majority of respondents (90%) drove alone 80% of the time to conduct errands and recreate. If the City is to reduce the emissions resulting from these trips, we will need to create an urban form that supports pedestrian-friendly economic and recreational activity. Urban design research further underscores this need, indicating that the density of businesses in a district is a key driver of pedestrian activity.** In addition, as the regional Sustainable Communities Strategy is implemented, it will become increasingly important for El Cerrito to create more of a jobs/housing balance by attracting jobs closer to home. The following objectives will help reduce vehicle miles traveled as well as help support the wider goal of increasing El Cerrito’s economic vitality.

Objective SC-2.1:

Create a physical environment and stronger sense of place that supports high quality, walkable commercial and retail development and invites people to spend time in El Cerrito’s commercial areas.

Strategies include:

- E** Continue to pursue projects in such nodes of activity as the Theater Block, the El Cerrito Plaza area, Midtown, and Del Norte to identify El Cerrito’s portion of San Pablo Avenue as a special place of dynamic activity.
- E** Create a reason for people to shop in El Cerrito by developing a unique El Cerrito experience that builds upon local assets.
- E** Link the City’s main commercial nodes through a network of open space, public art, and other cultural and historic amenities that encourage people to linger longer.
- E** Develop and implement design guidelines that promote a pedestrian-friendly commercial environment along transit-oriented nodes, such as allowing and encouraging outdoor seating and activities that enliven the street.
- P** Pursue innovative street parking solutions that support pedestrian access.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects

** “The number of businesses per acre is the single most robust indicator of whether people are likely to walk in their neighborhood. We find that people living in neighborhoods with more business establishments per acre conduct more of their travel within their neighborhood and are more likely to travel by walking.” Boarnet, Marlon G. et al. “Retrofitting the Suburbs to Increase Walking.” *Access Magazine*, Vol. 39, Fall 2011. University of California Transportation Center.

Objective SC-2.2:

Enhance neighborhood-serving commercial nodes and encourage the development of commercial spaces in mixed-use areas that can better serve the daily needs of residents, businesses and people who work in El Cerrito.

Strategies include:

- E** Identify nodes and properties in commercial corridors that are economically feasible for commercial and/or mixed-use development.
- P** Develop conceptual area plans for priority nodes that communicate the City’s vision, goals and expectations to the development community.
- P** Develop study areas to more fully realize the potential for neighborhood-scale commercial nodes, such as the Stockton and the upper and lower Fairmount areas, as part of the next *General Plan* update process.

Objective SC-2.3:

Encourage existing businesses to adopt environmentally friendly practices, and attract “green economy” businesses to El Cerrito.

Strategies include:

- E** Participate in the regional Green Business Program and support projects and policies to promote resource efficiency, waste reduction and pollution prevention in the commercial sector.
- P** Develop a business attraction strategy that investigates the types of “green economy” businesses (for example, community food enterprises or green building supplies and services) that would be successful in El Cerrito.
- P** Support the development of a local food economy^{††} in El Cerrito by:
 - Recruiting local food enterprises to locate in El Cerrito; and
 - Expanding the frequency and enhancing the quality of local farmers’ markets.

Hyper-Local Markets Provide Big Economic Boost

“There’s good evidence to show that community food enterprises generally provide more jobs—two to four times the amount per dollar of sales—and generate more income and wealth for their communities than non-locally owned businesses, even ones that source goods from the area.”

Michael Schuman
*Community Food Enterprise:
Local Success in the World
Marketplace*

- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

^{††} Finz, Stacy. “Hyper-local Markets Provide Big Economic Boost.” SFGate. *San Francisco Chronicle*, 27 Dec. 2011. Web. 26 Oct. 2012



SUSTAINABLE COMMUNITY GOAL #3:

Continue to invest in infrastructure that invites people to walk, bike, and take transit more in El Cerrito.

Since 2005, El Cerrito has taken great strides in laying the foundation for an environment that encourages people to use their cars less. The *Circulation Plan for Bicyclists and Pedestrians*, the *Citywide Pedestrian Safety Assessment*, and the *Ohlone Greenway Master Plan* aim to create attractive and safe routes for walkers and bikers throughout the City. The improvements along San Pablo Avenue Street help transform our City’s main street from a state highway commercial strip to an attractive, pedestrian-oriented space with its own sense of place. These improvements, detailed in *Figure 3.3, San Pablo Avenue Streetscape Improvement Project*, won the City the International City/County Management Association’s Community Sustainability Program Excellence Award in 2012 (see page 35).

However, these accomplishments are just the beginning, as vehicle ridership still dominates the transportation mode split in El Cerrito. Compared to vehicles, pedestrians, bicyclists, and transit users comprise only 12% of mode split along San Pablo Avenue in 2012.** Increasing the number of connections (or “connectivity”) across San Pablo Avenue and between our commercial districts, the Ohlone Greenway and our neighborhoods will facilitate use of other transportation choices by developing a safer and more convenient infrastructure for those not driving a car.

Objective SC-3.1:

Create design standards for developments in commercial areas to require pedestrian-friendly improvements.

Strategies include:

- E** Develop design standards to improve building facades so that they are pedestrian-scaled with windows and entries along the pedestrian frontages.
- P** Encourage the creation of both privately and publicly maintained pedestrian right-of-ways between San Pablo Ave and neighboring streets and amenities in order to break up long blocks and increase the number of pedestrian connections per block.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects

** Fehrs and Peers, “Mode Split Along San Pablo Avenue.” Memorandum to City of El Cerrito Public Works Department. May 29, 2012.

Objective SC-3.2:

Maintain and expand an active program of streetscape improvements that enhance the pedestrian environment, character and continuity of residential and commercial districts and create greater connectivity between residential and commercial districts.

Strategies include:

- E** Identify and pursue additional opportunities to create and/or modify city street crossings, long blocks, and other city right of ways (pedestrian trails and stairs) to increase pedestrian and bicyclist convenience.
- E** Participate in regional efforts to create a wayfinding signage program connecting neighborhoods and the Ohlone Greenway to major transportation hubs.
- E** Develop a wayfinding signage program to promote use of pedestrian trails and stairs, especially as a way to improve pedestrian access to schools and transit.

Objective SC-3.3:

Continue implementation of the *Ohlone Greenway Master Plan* and create greater connections between the Greenway, San Pablo Avenue and other regional trail networks.

The Ohlone Greenway Master Plan, adopted in 2009, sets forth the vision of how the Ohlone Greenway will evolve and develop over time, provides design guidelines, and prioritizes public improvements to maximize the public's safety, use, and enjoyment of this major pedestrian and bicycle path connecting the entire length of the City.

Strategies include:

- E** Secure funding to design and develop key "Activity Areas" as defined in the *Ohlone Greenway Master Plan*.
- P** Encourage the creation of pedestrian right-of-ways and bicycle facilities between San Pablo Avenue and the Greenway to increase connectivity, including the redesign of parcels as they redevelop and create partnerships or incentives for existing businesses to incorporate such access.
- E** Develop a comprehensive way-finding information program to inform Ohlone Greenway and other pedestrian users about connections to San Pablo Avenue and surrounding destinations.



Wayfinding signs installed as part of the San Pablo Avenue Streetscape Improvement Project.

- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

Objective SC-3.4:

Expand and improve the City’s transit, bicycle, pedestrian, and zero-emission vehicle infrastructure.

The City received funding in 2012 to update to the *Bicycle and Pedestrian Circulation Plan (Bike/Ped Plan)*, which is anticipated to be completed in 2014. During the community input process for the CAP, participants provided the following suggestions for improving El Cerrito’s bicycle and pedestrian infrastructure, which will be reviewed as part of the Bike/Ped Plan update:

- Expand the City’s network of bicycle facilities, including adding bicycle boulevards to the network;
- Establish a network of bicycle rental stations, especially to connect the two BART Stations with Midtown/City Hall and the Community Center;
- Provide access to more secure bicycle storage near BART, shopping and recreational facilities;
- Increase the requirements for secure bicycle parking for new development;
- Partner with BART to expand and enhance pedestrian and bicycle access to BART stations, including better and safer connections between the Ohlone Greenway and the stations; and
- Develop strategies for facilitating greater bicycle and pedestrian connections between transit facilities along San Pablo Avenue and the hillside neighborhoods, such as encouraging casual carpool sites, an electric “zoo train,” or funicular on major east-west corridors to get people up and down the hills to and from BART.

In addition, the City plans to develop its first San Pablo Avenue Complete Streets Plan. The purpose of the Complete Streets Plan is to provide a consistent set of objectives, policies, and implementation measures to provide for a well-connected, safe and convenient multi-modal transportation network that serves travelers of all ages and abilities.

Strategies include:

- E** Existing Policies, Programs, or Projects
- E** Update the *Bicycle and Pedestrian Circulation Plan* (to be completed in 2014). The update will focus on corridors and key intersections identified for additional evaluation in the previous plan; identify new design standards and traffic control methods; integrate Climate Action and Complete Streets Policies; and prioritize improvements.
- E** Develop the *San Pablo Avenue Complete Streets Plan* and incorporate plan elements into the *General Plan Update*. Elements of the Plan include:
 - Goals for future mode share and level of investment needed to achieve these goals;
 - Performance and level-of-service standards for pedestrian, bicycle, and transit modes;
 - New street and intersection design standards that specifically consider incorporation of bicycle, ADA, and pedestrian facilities, transit accessibility and transit priority
- P** Potential Policies, Programs, or Projects

measures, streets trees and planting strips, and traffic calming measures;

- Alternative Performance Measures/Multi-Modal Transportation Service Objectives for next update to *West County Action Plan for Routes of Regional Significance*; and
- Integration with the *Caltrans Complete Streets Implementation Action Plan*, which applies to state highway system, including San Pablo Avenue.

P Work in conjunction with regional efforts to support the development of electric vehicle charging stations in appropriate locations throughout El Cerrito.

Objective SC-3.5:

Collaborate with the West Contra Costa Transportation Advisory Committee (WCCTAC), BART, AC Transit and WestCAT, major employers, and schools to support improvements and greater access to transit facilities throughout El Cerrito.

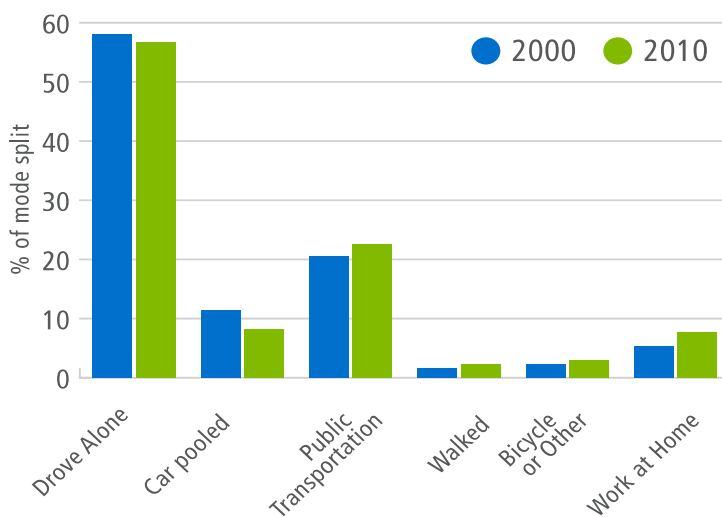
Strategies include:

E Seek grant opportunities to implement improvements identified in the West County Transportation Enhancement and Transit Wayfinding Projects and to fund pilot projects that increase access to transit.

E Work with WCCTAC, 511 Contra Costa, employers, shopping centers, and schools in El Cerrito and nearby communities (such as Berkeley National Lab’s new Richmond Field Campus) to develop commuter trip reduction programs to decrease single-occupant vehicle use in EL Cerrito’s transit, commercial , and educational centers.

P Identify and help mitigate barriers, such as lack of access to high speed broadband in business centers, to employers being able to use high tech solutions, such as video conferencing, to cut down on business travel.

Fig. 3.2: El Cerrito Means of Transportation to Work (2000 & 2010 Census Data)



E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects

Fig 3.3: San Pablo Avenue Streetscape Improvement Project





SUSTAINABLE COMMUNITY GOAL #4:

Increase and enhance urban green and open space to protect biodiversity, conserve natural resources, conserve water, foster walking and bicycling, and improve the health and quality of life for residents and people who work in El Cerrito.

During public input for the CAP, urban greening was raised as an important element in both curbing the causes of climate change and in helping the community and its ecosystems adapt to its impacts. Urban greening is a key strategy for:

- Reducing vehicle miles by creating a more walkable, interconnected and well-programmed network of green spaces;
- Reducing the need for energy intensive inputs for landscaping by fostering easier to maintain, drought tolerant and native landscapes;
- Sequestering carbon and mitigating urban heat islands by expanding the urban forest canopy;
- Providing more opportunities for local food production through community gardens, especially as the San Pablo Avenue corridor begins to accommodate higher density development;
- Mitigating the impacts of heavy winter downpours and flooding by reducing impervious paving through rain gardens, bio-swales, and increased open space;
- Maintaining biodiversity by protecting habitats and providing wildlife corridors to increase the likelihood that native ecosystems will be able to adapt to the impacts of climate change.

Objective SC-4.1:

Develop a comprehensive *Urban Greening Plan* to guide the development, programming, and maintenance of the City’s public open spaces and green infrastructure and to identify additional or different types of green spaces needed to support urban infill development.

The City received grant funding in 2012 to develop the Urban Greening Plan -- integrate aspects of the Plan into the General Plan Update.

Aspects of the plan include:

- E** A needs assessment of green and open space in El Cerrito;
- E** Updated Master Street Tree List, City planting palettes, and a Park Planting Maintenance Guidelines;
- E** Policy recommendations;
- E** List of potential urban greening and open space projects.

- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

Objective SC-4.2:

Promote Bay-Friendly^{§§} tree planting and landscaping, and the creation of green and open space that is attractive and helps restore natural processes, sequester carbon, clean storm water, conserve resources, and connect citizens to El Cerrito's natural environment.

Strategies include:

- P** Update the Urban Forestry Management plan to diversify tree species, implement successive replanting and standardize best management practices in order to maintain and enhance a community forest that contributes to a sustainable environment.
- P** To lead by example, develop a policy for City maintained landscapes to follow the principles of Bay-Friendly design and maintenance.
- E** To enforce the regional clean water requirements and the State's Water Efficiency Landscape Ordinance, ensure that ecologically beneficial storm water retention systems (rain gardens) and water conservation features are integrated into the design of landscapes for applicable new developments.
- P** Conduct education and outreach to encourage the voluntary development of Bay-Friendly landscapes, rain gardens and water conservation features in projects not required by ordinance to do so.
- E** Encourage and support the development of community gardens in order to increase access to healthy, affordable local foods.
- P** Seek funding to increase the urban forest through a variety of programs, including a street tree planting and stewardship program.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects



Community members build a demonstration community garden on Earth Day 2012.

§§ Bay-Friendly landscaping is a holistic approach to gardening and landscaping that fosters soil health, conserves water, minimizes maintenance requirements, and uses a plant pallet that is well suited for the natural conditions of the San Francisco Bay Area.



SUSTAINABLE COMMUNITY GOAL #5:

Develop alternative transportation outreach, education, and incentive campaigns tailored to El Cerrito.

Many of the land use, urban design and economic development strategies articulated in the CAP will help El Cerrito switch to more sustainable forms of transportation, playing a greater role in reducing GHG emissions by 2035 as more of the City’s compact development goals are met. In the meantime, education and outreach to encourage residents, businesses, and workers to voluntarily switch some of their automobile trips to other modes of transportation will be more critical in achieving our 2020 goals.

Objective SC-5.1:

Encourage residents and businesses to use vehicle trip reduction programs.

Trip reduction programs often include incentives for carpooling, taking transit, and bicycling, as well as employee orientation programs, event promotions, publications, flexible work schedules for employees, transit subsidies, parking cash-out or priced parking, shuttles, and “guaranteed ride home” programs for carpoolers. These types of programs are provided in El Cerrito by 511 Contra Costa.



Alberrito Street Play Day on Ashbury Street and Key Route Boulevard

Strategies include:

- E** Work with WCCTAC, 511 Contra Costa, and other transportation agencies to promote their programs to El Cerrito’s business and residential communities.
- P** Create a welcome packet for new businesses and residents in El Cerrito, which will provide information on trip reduction options, as well as bicycling and pedestrian amenities, in El Cerrito.
- E** Pursue funding to develop trip reduction incentive and education programs specific to El Cerrito and to increase community participation in such events as Bike-to-Work Day.

Objective SC-5.2:

Develop and implement other programs and campaigns that are known to increase biking and walking, such as “Sunday Streets”, Bike Rodeos and Safety Classes etc.

Strategies include:

- E** Enhance and expand the City’s “Street Play” days, such as the Alberrito Street Play Day, to include more events and other neighborhoods.

- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

- E** Expanding on the success of Bike-To-Work Day, sponsor a variety of “Bike-To” or “Walk-To” events that link biking and walking to everyday activities, such as shopping, recycling and recreating.
- P** Promote organized hiking events to increase use and awareness of the City’s pedestrian paths and trail network.

Goal #	Fig. 3.4: Sustainable Community (SC)	Annual Tons CO ₂ e Reduced	
		by 2020	by 2035
	Summary of Goal and Objectives		
SC-1	Encourage higher density TOD and infill development on transportation corridors		
SC-1.1	Update General Plan and other applicable plans and ordinances to support higher densities along major transportation corridors		
SC-1.2	Develop planning mechanisms to encourage development of higher densities in designated areas		
SC-1.3	Develop a parking demand management strategy to encourage high density development and alternatives to driving		
SC-2	Diversify El Cerrito’s economy to increase El Cerrito’s job base, create greater commercial vitality and more pedestrian-friendly economic activity		
SC-2.1	Create a walkable physical environment that invites people to spend time in El Cerrito’s commercial areas		
SC-2.2	Enhance neighborhood-serving commercial nodes and encourage commercial spaces in mixed-use areas.		
SC-2.3	Encourage adoption of green business practices and attract “green economy” businesses to El Cerrito	10,027	20,378
SC-3	Invest in pedestrian-, bicycle-, and transit-friendly infrastructure		
SC-3.1	Create design standards for bicycle and pedestrian friendly design		
SC-3.2	Maintain an active streetscape improvement and maintenance program		
SC-3.3	Continue implementation of the Ohlone Greenway Master Plan		
SC-3.4	Expand and improve the City’s bicycle and pedestrian infrastructure		
SC-3.5	Work with regional agencies to support improvements and greater access to transit facilities in El Cerrito		
SC-4	Increase and enhance urban green and open space		
SC-4.1	Develop a comprehensive Urban Greening Plan		
SC-4.2	Promote Bay Friendly tree planting and landscaping and open and green spaces, including community gardens		
SC-5	Develop alternative transportation outreach and incentive programs to increase the number of trips made by walking, biking or taking transit.		
SC-5.1	Encourage residents and businesses to adopt trip reduction programs		
SC-5.2	Develop education and outreach campaigns and events to promote walking, biking and taking transit	242	443
TLU-State	State transportation measures: fuel efficiency & low carbon content	14,189	27,167
	Total Sustainable Community Reductions Identified (Tons CO ₂ e)	24,458	47,988

Energy and Water

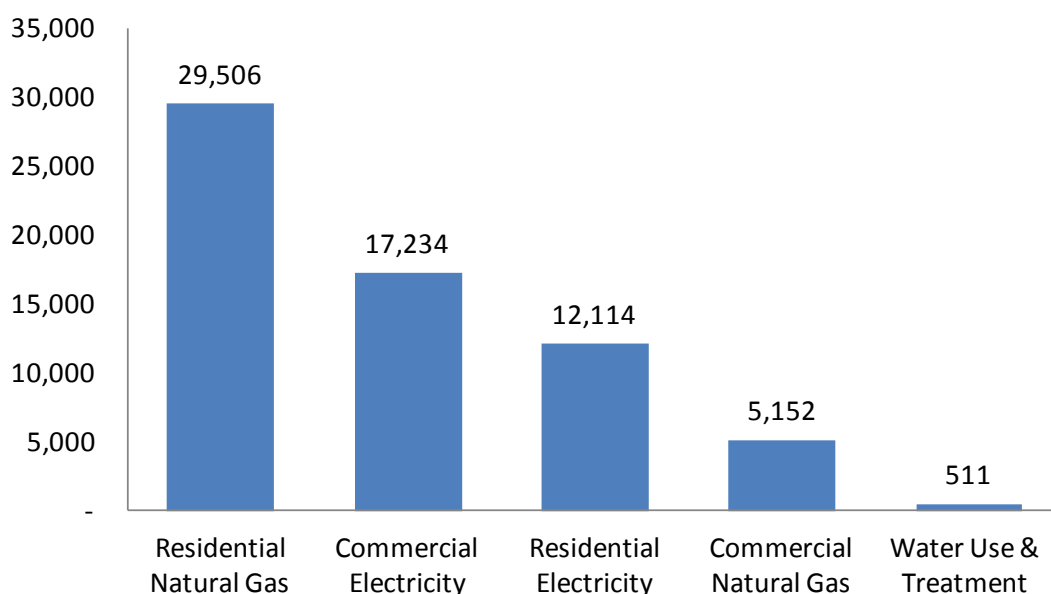
The electricity, natural gas, and water we use to keep our economy going and our built environment maintained, comfortable, and attractive are also major sources of GHG emissions. As discussed in *Chapter 2, El Cerrito’s Greenhouse Gas Emissions*, natural gas used to heat our buildings is the second largest source of emissions, followed by electricity and then water use, which places a distant third. While the water we use for both interior and exterior applications is not a significant source of GHG emissions, the likelihood of more frequent water shortages in the future calls for more efficient use of this valuable resource. Investing in ways to more sustainably source and use energy and water not only reduces our GHG emissions, but also improves our building stock, reduces our energy costs, and secures our long-term energy and water future.

There are a number of ways to reduce GHG emissions from energy and water use. These include:

- Optimizing energy and water efficiency in new construction;
- Retrofitting existing buildings to reduce energy and water consumption;
- Promoting energy and water conservation and efficiency through education and incentive programs; and
- Advancing the use of renewable energy and grey water systems.

As these methods to increase energy and water efficiency in buildings are similar, we have combined them into the same set of goals. *Figure 3.6*, at the end of this section, summarizes the goals and objectives for energy and water use, including annual GHG emissions reductions associated with each.

Fig. 3.5: GHG Emissions from Energy and Water Use (2005)





ENERGY/WATER GOAL #1:

Reduce energy and water use by 20% of the 2005 baseline in existing residential and commercial buildings by 2020.

Nearly 30% of El Cerrito’s current greenhouse gas emissions come from our residential buildings, with two thirds of that stemming from the natural gas use, as shown in *Figure 3.5, GHG Emissions from Energy and Water Use*. This is due primarily to the fact that the vast majority of El Cerrito’s houses were built prior to enactment of California’s energy

efficiency standards. Built between the 1940s and the 1970s, most homes in El Cerrito lack proper insulation, leak heat, and/or have leaky furnace ducts and antiquated heating systems. If properly retrofitted and insulated, these homes could use 20% to 60% less natural gas, significantly cutting winter energy bills.

By weatherizing their homes, El Cerrito residents could be using 20%-60% less natural gas, drastically cutting winter energy bills.

The next largest source of emissions is El Cerrito’s commercial and institutional building electricity use. El Cerrito’s commercial building stock varies greatly, ranging from BART stations to big box retail to small store fronts. This variety will necessitate of a more customized approach to providing efficiency and clean energy services to lower emissions.

Reducing energy and water use in El Cerrito’s existing building stock will require a combination of education programs, incentives, new financing tools, and regulations. During the public input process, most participants favored an implementation approach that emphasized education and incentives to achieve our goals, with the option of using a more regulatory approach at later phases if voluntary measures fell short.

Objective EW-1.1:

Pursue opportunities to actively promote energy and water efficiency education and incentive programs in El Cerrito.

El Cerrito does not have the dedicated resources to adequately operate energy and water efficiency education and incentive programs; therefore, all efforts to do so will be pursued in conjunction with outside sources, such as through grant funding and partnerships with state, regional and utility programs.

Strategies include:

P Structure building permit fees, processes, and requirements to incentivize greater adoption of energy efficiency, clean energy, and water conservation improvements.

E Develop partnerships with PG&E, EBMUD, ABAG, Contra Costa County Weatherization

- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

and Green Business Programs, and East Bay Energy Watch to bring residential energy and water efficiency technical assistance and incentives to El Cerrito.

- P** Create a low-cost marketing strategy to encourage resident participation in energy and water efficiency programs.
- E** Work with regional, county, state and federal policy makers to ensure small local governments have access to dedicated energy efficiency funding.
- E** Apply for appropriate grants for marketing, outreach and incentive programs dedicated to energy and water efficiency in El Cerrito.



About 75% of El Cerrito homes are not adequately insulated. By properly sealing and insulating just the attic, homeowners could cut natural gas use by as much as 30%.

Objective EW-1.2:

Promote financing strategies that will encourage property owners to make energy efficiency and other clean energy investments in their properties.

In order to bring down the up-front costs associated with installing efficiency and/or renewable energy projects, private and public agencies have been partnering to create new financing tools, most notably PACE* financing, to help residents and businesses make clean energy improvements on their properties. Similarly, PG&E provides financing for energy efficiency improvements in commercial buildings, in which the loan is paid off as a portion of the monthly energy bill at 0% interest.

Strategies include:

- P** Pursue commercial PACE financing in conjunction with other public entities.
- P** Adopt residential PACE financing if it becomes available in California.
- P** Promote and help market on-bill financing by the utility companies to sectors where this service is available.



In a business, lighting efficiency upgrades are some of the most cost-effective ways to save energy and reduce costs.

* Property Assessed Clean Energy (PACE) is a financing mechanism offered by local government entities to provide sustainable energy project loans to qualified property owners, who then repay the loans through a tax assessment on their property for up to 20 years. PACE is currently only available for commercial properties.

Objective EW-1.3:

Utilize existing points of interaction with the City to encourage and/or require cost-effective energy and water efficiency improvements.

Strategies include:

- P** Structure building permit fees and requirements to incentivize greater adoption of energy and water efficiency improvements.
- P** Encourage or require a home energy performance report at time of sale in order to promote better understanding of home comfort, indoor air quality, and utility costs.
- P** Encourage or require improvements to a building's energy or water performance during major renovation, sale, or certain types of improvements.
- P** Encourage compliance with AB 1103, which requires disclosure of an EPA Energy Star rating at time of sale or lease in commercial buildings.

Climate Action in El Cerrito Since 2005

Energy and Water Use in the Community

Since 2005, El Cerrito, its residents, businesses and institutions have taken the following actions to reduce energy and water use.

- The City offered the El Cerrito Home Energy Assessment rebate to help residents qualify for the EnergyUpgrade California Program, achieving the 2nd highest number of Energy Upgrade participants (43) out of all cities in Contra Costa County.
- Worked with PG&E and the East Bay Energy Watch Program to complete energy efficiency upgrades in 135 El Cerrito businesses.
- Residents reduced their water consumption by 20% since 2005.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects



ENERGY/WATER GOAL #2:

Encourage new construction to build to a higher level of green building, energy and water efficiency than required by California code.

As an already built-out community, El Cerrito currently has relatively few new construction projects. However, in order to accommodate transit-oriented development, new growth will primarily occur through urban infill development along the San Pablo Avenue corridor. The City can influence the GHG emissions associated with new construction, while also increasing building quality, by linking local development standards to nationally and regionally recognized, voluntary green building standards. These standards include the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED), Build It Green’s Green Point Rated (Green Points), and the U.S. Environmental Protection Agency’s Energy Star Buildings and Benchmarking Program (Energy Star). This action will also support the State’s goal for achieving “zero-net energy” in new buildings,[†] in which efficiency and on-site energy generation are combined to significantly reduce energy use in both residential and commercial buildings.

Objective EW-2.1:

Encourage new construction to be built to green building, energy, and/or water performance standards contained in LEED, Green Points, and Energy Star.

Strategies include:

- P** To lead by example, require newly constructed city buildings and projects receiving City funds to be built to a minimum LEED Silver certification and to strive towards net-zero energy design (discussed in more depth under *Chapter 5, Municipal Climate Action*).
- P** Simplify project review and permit approval processes to encourage the use of net-zero energy design and water conservation strategies such as rain water catchment and grey water systems.
- P** Encourage access to education and technical assistance through energy and water utility programs such as PG&E’s Savings by Design and Zero-Net Energy Buildings, and EBMUD’s Water Smart Program.
- P** Link participants to incentives, such as recognition and rebate programs.
- P** Assess feasibility of adopting higher energy efficiency (also known as “reach codes”) and/or green building requirements, as recommended by the California Green Building Code.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects

[†] California Public Utilities Commission, *California Long Term Energy Efficiency Strategic Plan*. September 2008.



ENERGY/WATER GOAL #3:

Reduce reliance on fossil fuel based energy by increasing renewable energy use throughout El Cerrito.

Objective EW-3.1:

Develop and implement a strategy to facilitate greater adoption of solar and renewable energy use in the residential and commercial sectors.

The rate at which El Cerrito’s residents, businesses, and institutions are installing renewable energy systems each year is accelerating. In 2005 and 2006, the City issued no permits to install either a solar photovoltaic (PV) or a solar hot water system. By 2011, the City issued 30 solar permits, an increase of 36% from the year before. Solar is well-suited to El Cerrito’s climate and suburban/urban form and could offset most of a typical household’s electricity use. As the economics of solar continue to improve, the City can play an important role in encouraging the adoption of solar.



Solar is well suited to El Cerrito’s climate and could offset most of a typical household’s electricity use.

Strategies include:

- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

- P** Streamline, to the extent possible, the permit process for installing solar photovoltaic and solar thermal systems.
- E** Continue participation in the East Bay Green Corridor’s regional solar permitting streamlining efforts.
- P** Provide educational workshops for residents and businesses on assessing the feasibility of using renewable energy to offset their grid-tied electricity use.
- P** Work with local financial institutions, solar vendors, and community groups to develop a program to lower costs of solar for El Cerrito residents and businesses, based on models developed by the cities of San Francisco and San Jose.
- P** Pursue funding resources to develop and implement an El Cerrito Go Solar program containing the elements listed above.

Strategy EW-3.2:

Participate in regional efforts to provide a higher percentage of electricity from renewable sources than otherwise provided.

Community Choice Aggregation (CCA) is an energy procurement framework that allows groups of municipalities to procure electricity to meet the collective load of their residents and businesses. CCAs provide municipalities with access to the wholesale power market to meet their desired electricity supply portfolio, while still having the local utility provide transmission and distribution services. CCAs can provide their residents and businesses with lower electricity costs, a greater ability to spur renewable energy development, better and more locally appropriate access to energy efficiency and renewable energy incentives, and reduced GHG emissions.

In 2010, Marin Clean Energy (MCE) launched California's first CCA, which is now purchasing electricity that is 65% carbon-free, including 35% from renewable sources (compared to 20% from PG&E). In addition, MCE is providing competitive solar net-metering and feed-in tariff programs to incentivize customers to feed solar electricity into MCE's energy portfolio. Given the success of Marin Clean Energy, East Bay communities are taking a fresh look at instituting a CCA. Pursuing CCA on an individual basis is not practical for small jurisdictions such as El Cerrito; however, El Cerrito could opt-in to a regional CCA. The City of Richmond recently joined MCE, which will be rolling out services to Richmond residents and businesses beginning in 2013.

Strategies include:

- P** Explore opportunities for instituting or joining a regional Community Choice Aggregation effort.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects



ENERGY/WATER GOAL #4:

Partner with local, regional, and state agencies to encourage water conservation and efficiency.

As annual temperatures continue to rise, the Sierra Nevada snowpack will decrease, putting stress on California’s water supply. There are a number of water-efficiency strategies that will help optimize our use of potable water. In addition to conserving this essential resource, water efficiency strategies can reduce costs to residents and businesses that are currently using inefficient appliances and landscaping practices. Given that the majority of El Cerrito’s water use is for irrigation, the strategies below emphasize water conservation practices in landscaping.



The new Recycling + Environmental Resource Center is EL Cerrito’s first LEED Platinum facility. Green building features include zero-net energy use, rain water catchment, rain gardens, and a Bay-Friendly native plantings.

Objective EW-4.1:

Pursue opportunities to actively promote water conservation and efficiency programs in commercial and residential buildings and landscapes.

Strategies include:

- P** Provide educational workshops for City staff, residents and businesses on water efficiency measures and Bay Friendly landscapes and maintenance practices.
- E** Enforce the State mandated Water Efficiency Landscape Ordinance, in which new and rehabilitated landscapes with at least 2,500 sq. ft. of landscape area are required to meet an annual water budget.

Objective EW-4.2:

Encourage the adoption of rainwater catchment and gray water irrigation systems in El Cerrito, consistent with California State code, to offset potable water use.

Gray water and rain catchment systems can be used to offset potable water use in landscapes. Gray water is any water that has been used by a building user, except from kitchen sinks and toilets. Both gray water and rainwater catchment systems can range from the very simple to the complex and each should be done correctly. In order to help residents

adopt these beneficial measures, the City shall provide information about existing permitting process and consider easing permitting process , consistent with California State Code to encourage increased use of these systems.

Strategies include:

- P** Provide educational workshops for residents and businesses on installing and using rainwater catchment and gray water systems to reduce water use.
- P** Streamline, to the extent possible, the permit process for installing gray water and rainwater catchment systems.
- P** Structure building permit fees and requirements to incentivize greater adoption of water efficiency improvements.
- P** Seek grant opportunities to provide incentives for water conservation strategies.
- P** Work with East Bay Municipal Utility District to bring recycled water to El Cerrito.

Goal #	Fig. 3.6: Energy and Water Use (EW)	Annual Tons CO ₂ e Reduced	
		by 2020	by 2035
	Summary of Goals and Objectives		
EW-1	Reduce energy and water use in existing buildings by 20%		
EW-1.1	Promote and provide energy and water efficiency education & incentive programs in El Cerrito	2,736	10,411
EW-1.2	Promote clean energy financing strategies for property owners	887	1,953
EW-1.3	Utilize existing points of interaction with the City to encourage and/or require cost-effective energy and water efficiency improvements	867	3,503
EW-2	Encourage new construction to build to a higher level of green building and energy efficiency than is required by California code		
EW-2.1	Encourage new construction to be built to green building, energy, and water performance standards	445	1,333
EW-3	Reduce reliance on fossil fuel based energy by increasing renewable energy use in El Cerrito		
EW-3.1	Facilitate greater adoption of renewable energy use	1,061	3,566
EW-3.2	Join a Community Choice Aggregation	4,242	6,868
EW-4	Encourage water conservation and efficiency and diversify the community's water supply.		
EW-4.1	Promote and provide water efficiency education & incentive programs in El Cerrito	63	95
EW-4.2	Encourage adoption of rainwater catchment and gray water irrigation systems		
EW-State	State Electricity Measures: Renewable Energy Standard	5,294	8,553
	Total EW Reductions Identified (Annual Tons CO ₂ e)	15,595	36,282

Waste Reduction

El Cerrito, as a community and a city, has a long history of taking proactive steps to reduce waste. In 1972 community members set up one of the first community recycling facilities in the nation, and soon thereafter the City instituted one of the first curbside recycling programs. By operating the Recycling Center and its curbside programs, the

City has been able to create a steady downward trend in the generation of solid waste. Between 2005 and 2011, per capita waste (including recyclables and green waste) dropped 17% at an annual average rate of -2.4%. This decline resulted in CO₂e reductions of over 3,000 tons annually.*

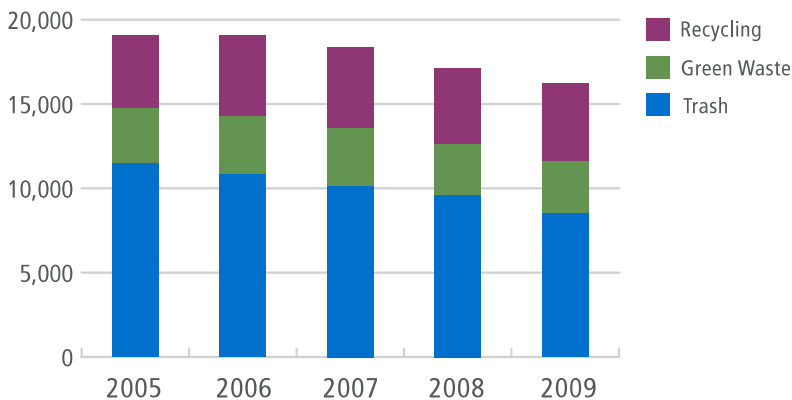
Between 2005 and 2008, El Cerritans were able to reduce all waste by 12%, reducing CO₂e by 3,228 tons per year. This is equivalent to permanently retiring 536 cars.

Besides keeping waste in the landfill from emitting methane, waste reduction and recycling reduces GHGs in a variety of other ways. Recycling reduces the amount of embodied energy in a product by eliminating the need for extraction, transport, and pre-processing of raw materials. The use of compost derived from our foodscraps and green waste reduces the need for energy-intensive fertilizers and pesticides.

Finally, while emissions from land-filled waste only represents 5% of El Cerrito’s total 2005 inventory, waste is an indicator of a much larger source of emissions: the provision of food, consumer goods, and services. As described in Chapter 2, the embodied energy in the production and transport of food and other goods accounts for a large portion of El Cerrito’s carbon footprint. Absolute reductions in the amount of waste generated may also be an indication that El Cerritans are considering the waste implications of their

purchases.

Fig. 3.7: El Cerrito Annual Tons of Waste, 2005-2009



The waste reduction goals discussed below are based on projections of per capita waste generation in 2020 and assume that El Cerrito’s programs could divert between 25% and 50% of food scrap, green, and mixed waste from the landfill. *Figure 3.8 Waste Reduction Summary of Goals and Objectives*, at the end of this section, summarizes the potential for emissions reductions from waste reduction.

* The CO₂e of methane emissions from lifetime decomposition associated with waste in landfills, using the U.S. Environmental Protection Agency’s Waste Reduction Model (WARM) software, as recommended by the BAAQMD.



WASTE GOAL #1:

Reduce waste going to the landfill to a total of 4,000 tons by 2020 and to 2,000 tons of waste by 2035.

Objective W-1.1:

Maximize participation in waste reduction curbside services in the residential, commercial, multi-family, and educational sectors.

According to the 2012 National Citizen’s Survey, between 96% of El Cerrito’s households participate in the City’s curbside recycling programs.[†] However, staff estimate that, as a subsector, businesses and multi-family apartments are participating at closer to 60% and 75%, respectively. These lower rates are due to a variety of challenges, including difficulties contacting the target audience for education and training. Commercial programs include the additional barrier of customized services for differing waste streams and logistics.

Since the majority of future development in El Cerrito will be higher density, mixed-use development along the San Pablo Avenue corridor, increased participation by businesses and apartment complexes is necessary for continued reductions in waste disposal.

In 2010 and 2011, the City introduced a food scraps composting curbside program and a new multi-family outreach and education campaign, which included the distribution of collapsible recycling bags to make storing recyclables and carrying them to common areas more convenient.



El Cerrito’s curb-side recycling and organics programs help the City lower the total amount of waste going to the landfill.

Strategies include:

- P** Conduct Waste Characterization Profiles for each sector (residential, commercial, multi-family, and educational) in order to determine where greater waste diversion, reduction and outreach is needed.
- P** Provide specialized customer service and collection approaches (e.g., more frequent collections, specialized containers, site consultations) that are customized to meet the needs and limitations of each sector.
- E** Expand outreach and education on waste diversion and reduction programs available to El Cerrito’s residents, businesses, multi-family dwelling and schools, via targeted programs including mailing inserts, site visits, and bill insert newsletters.
- P** Adopt a mandatory recycling ordinance for commercial and multifamily facilities.
- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

[†] ICMA and National Research Center. *National Citizens Survey, City of El Cerrito, 2012*. April 2012.

- E Expand the types of materials collected curbside as new markets develop.

Objective W-1.2:

Expand one-stop waste diversion options at the new Recycling + Environmental Resource Center.



The El Cerrito Recycling + Environmental Resource Center offers a pleasant and easy to navigate environment to drop off a variety of hard to recycle items.

Completed in early 2012, the new El Cerrito Recycling and Environmental Resource Center provides the public with the opportunity to recycle hard-to-recycle items and to exchange more items for reuse. The facility provides drop-off opportunities for materials not currently collected at the curb, such as expanded polystyrene blocks, hard and soft plastics, carpet, cooking and motor oil, pharmaceuticals, sharps, household batteries, and electronics. In addition, it houses a reusable materials exchange, a Goodwill donation site, and a reusable construction materials drop-off station. These expanded services are intended to

maintain the momentum behind El Cerrito’s success in not only diverting waste, but also in reducing the overall amount of material being discarded in the first place.

Strategies include:

- E Continue to expand drop-off options at the Center.
- E Increase outreach to educate visitors on the “4 Rs” (Reduce, Reuse, Recycle, Rot) of waste diversion.

Objective W-1.3:

Reduce landfill waste from Construction and Demolition.

The California Green Building Standards Code (CalGreen)[‡] requires that at least 50% of new construction and demolition (C&D) waste from construction of new structures of a certain size be diverted from landfills for reuse or recycling. Builders can comply either by submitting a waste management plan or proving compliance with a local ordinance. While El Cerrito does not currently have a C&D ordinance, passage of one may be preferable as it can offer the benefit of streamlining requirements for builders, showing City leadership on the issue, and capturing a greater portion of the C&D waste stream. For example, an

‡ Building Standards Commission. 2010 California Green Building Standards Code (CalGreen). California Code of Regulations, Title 24, Part 11.

ordinance developed to capture C&D waste not only from new structures, but also from renovations and additions (which comprise a greater percentage of El Cerrito’s overall construction) would increase overall waste diversion.

Strategies include:

- P** Conduct Waste Characterization Profiles for El Cerrito construction and demolition projects.
- P** Negotiate terms with waste haulers and processors to collect, process, and divert the maximum potential construction and demolition waste.
- P** Adopt a Construction and Demolition Debris Recycling Ordinance that includes recycling requirements for renovations, additions, and other small projects and require builders and haulers to use City-approved C&D processing sites or otherwise prove that they are recycling more than 50% of their waste.
- P** Conduct ongoing outreach to the El Cerrito community and local contractors regarding the new Ordinance and compliance options.

Objective W-1.4:

Develop and implement a *Zero-Waste 2035 Plan* for El Cerrito, wherein reducing the amount of waste produced is an ever-present goal.

Current industrial markets are major obstacles to creating a society that generates a lot less waste. Currently the responsibility for disposing of waste is shifted from those who

Climate Action in El Cerrito since 2005

Waste

- Achieved an annual average decrease in absolute waste going to the landfill of 2.4% per year since 2005
- Regularly achieve a 96% to 99% residential participation rate in the City’s recycling programs according to the National Citizen’s Survey
- Introduced single stream recycling and organics composting as part of curbside pick-up services
- Built the new LEED Platinum Recycling + Environmental Resource Center, facilitating greater ease in reusing and recycling such items as:
 - *Books, household goods, and textiles*
 - *Universal waste items such as electronics and fluorescent lamps*
 - *Prescription medicines and sharps*
 - *Motor and cooking oil*
 - *Styrofoam blocks*
 - *Carpets, building supplies, and paints*
- Introduced a new multi-family education and outreach program

- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

create wasteful and/or toxic products and packaging to local governments, and ultimately to the residents and businesses who generate the waste as a result of consuming these products. Creating a zero-waste community – wherein reducing the amount of waste produced wherever feasible is an ever-present goal – will require actions that transcend the local level and include actions by private and public entities throughout society such as instituting closed-loop manufacturing and “extended producer responsibility.”

Since zero-waste is a very ambitious goal, the associated actions will require extra study. The purpose of a *Zero-Waste Plan* is to investigate future actions that can move El Cerrito as close to producing zero waste as possible.

Scope of the study includes:

- P** Analyze El Cerrito’s waste streams (as mentioned in W-1.1 and W-1.3, above)
- P** Identify materials to be targeted by current and future programs.
- P** Investigate potential waste reduction strategies, such as:
 - *New or modified diversion (reuse, recycling, or composting) programs*
 - *Bans on problematic materials (such as single use plastic bags and expanded polystyrene take-out containers)*
 - *“Return for deposit” and “producer take-back” requirements.*[§]
- P** Recommend types of “zero-waste” programs best instituted at the local level, as opposed to the state, regional, or national level.
- P** Encourage producers, consumers, and recyclers to focus on product stewardship to reduce environmental and human health impacts.

Goal #	Fig. 3.8: Waste Reduction (W)	Annual Tons CO2e Reduced		
		existing measures	by 2020	by 2035
	Summary of Goals and Objectives			
W-1	Reduce waste going to landfill to 4,000 tons by 2020 and to 2,000 tons of waste by 2035.			
W-1.1	Maximize participation in curbside waste reduction services in the residential, commercial, multi-family sectors.	3,288	6,324	8,397
W-1.2	Expand one-stop waste diversion options at the Recycling Center			
W-1.3	Reduce land-fill waste from Construction and Demolition Projects			
W-1.4	Develop and implement a “Zero-Waste” 2035 Plan			
	Total Waste Reductions Identified		6,324	8,397

§ On August 16, 2010 the El Cerrito City Council issued letters of support to the California Legislature for two Assembly bills that would increase producer responsibility for waste. These bills are The Plastic Bag Ban (AB 1998), which did not pass, and the Paint Recovery Act (AB 1343), which did pass.

Adaptation Planning for Climate Impacts

Local governments have been the first responders to climate change as communities start to deal with the diverse impacts of climactic shifts. It is important that the projected impacts of climate change are incorporate into the decision-making process. While not included in the scope of this CAP, subsequent CAP updates and other long-term planning and emergency preparedness processes should incorporate elements that will help El Cerrito become more resilient to climate impacts (also known as “Adaptation” Planning). A menu of potential adaptation strategies and measures is provided in the table below.

Fig. 3.8: Climate Change Impacts and Sample Adaptation Measures

CLIMATE CHANGE IMPACTS	SAMPLE ADAPTATION MEASURES
<p>Sea Level Rise</p> <p>Risks to existing facilities, natural systems, private property and public infrastructure</p>	<ul style="list-style-type: none"> • Educate and engage the community on the need for long-range planning • Partner with other jurisdictions to increase awareness and build community support • Identify funding mechanisms and seek partnerships to protect vital infrastructure from erosion, inundation, and flooding
<p>Extreme Heat Events</p> <p>Risks to public health and infrastructure</p>	<ul style="list-style-type: none"> • Identify vulnerable populations and develop emergency preparedness plan • Increase access to cooling centers, especially for vulnerable populations • Reduce urban heat islands through tree planting, cool roofs and other reflective surfaces • Enact requirements for shading in new parking lots, other large paved areas • Evaluate need for increased fire protection measures
<p>Regional Drought</p> <p>Risks to reliable water supply and natural systems.</p>	<ul style="list-style-type: none"> • Promote and increase capacity for community water storage • Promote local water conservation • Diversify water supply for non-potable uses, such as increased use of gray and rain water • Partner with other jurisdictions to increase awareness and build community support
<p>Increased Flooding and Severe Weather Events</p> <p>Risks to public health, private property, public infrastructure, and ecosystems</p>	<ul style="list-style-type: none"> • Integrate flood management plans with adaptation planning • Identify and educate vulnerable neighborhoods • Establish local land use policies that decrease flood risk; avoid building in high-risk areas • Make modifications to storm water system routing and storage. Develop storage areas for peak flows • Maximize use of bio-swales and permeable surfaces to improve aquifer recharge and mitigate flooding from storm water
<p>Threats to Species, Ecosystems, and Ecosystem Services</p>	<ul style="list-style-type: none"> • Develop an urban green program to preserve open space and other critical habitats, improve biodiversity, and sequester carbon
<p>Risks to local agriculture and food supply</p>	<ul style="list-style-type: none"> • Support local farmers markets, backyard farming and community gardens • Support food growing education at all levels



MUNICIPAL CLIMATE ACTION STRATEGIES

El Cerrito's Municipal Operations

Leadership and Fiscal Responsibility

The City has the greatest control and therefore the most direct capacity to significantly reduce GHG emissions produced by municipal operations. It is committed to providing tangible results and visible leadership in its efforts to reduce such emissions.

Implementation of projects, programs, and policies that reduce municipal emissions not only benefits the climate, but also has other important benefits. By addressing inefficiencies in fuel, energy and water use, the City can lower costs and gain greater control over its energy and water future. By greening its buildings, landscapes, and the products and materials it uses, the City can improve employee and user comfort, health and satisfaction, and help restore natural processes and biodiversity. And finally, by implementing strategies similar to those proposed for other businesses and institutions, their effective implementation can provide positive examples for the El Cerrito community.

Municipal GHG Emissions

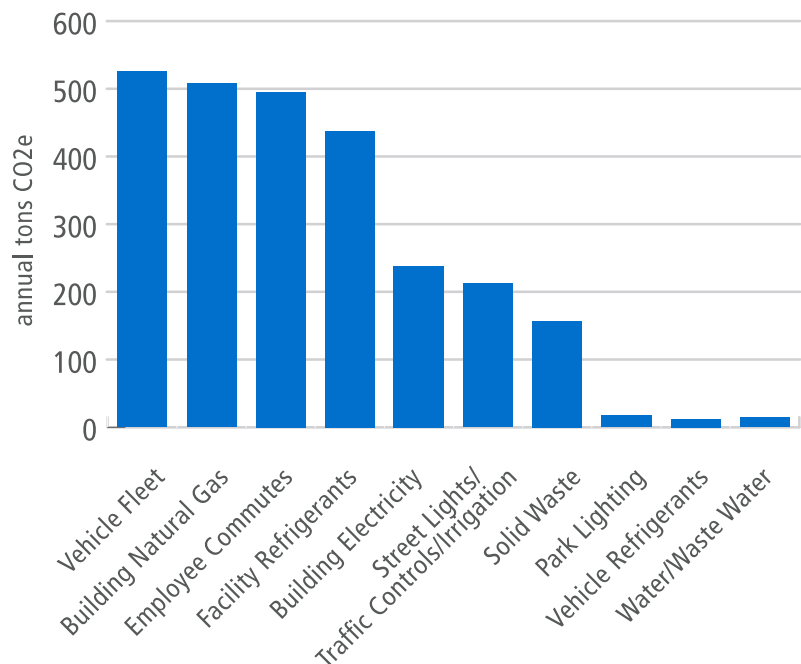
Baseline Inventory

Emissions from the City's municipal operations are contained as a subset of the community-wide inventory discussed in *Chapter 2, El Cerrito's Greenhouse Gas Emissions*.

In 2005, municipal operations produced 2,617 tons of CO₂e, accounting for 1.8% of emissions in El Cerrito. *Figure 4.1, Municipal GHG Emissions Inventory*, and *Appendix E, Municipal Inventory*, provide detailed breakdowns of the sources of the emissions associated with City operations in the baseline year of 2005. Similar to the community-wide inventory, the greatest percentage of emissions came from transportation-related activities and natural gas use to heat City facilities--primarily the City's Swim Center.

Fugitive emissions from refrigerants leaked from facility and vehicle air conditioning equipment is also counted in the municipal inventory, even though

Fig. 4.1: Municipal GHG Emissions Inventory 2005 (2,617 tons CO₂e)



it is not counted from community sources. In municipal operations, they account for more CO₂e than building electricity use. This is due to the very high global warming potential* of refrigerants, which ranges from 500 to 2,000 times that of CO₂, making it a significant contributor to climate change.

Growth in Municipal Emissions: Business-As-Usual

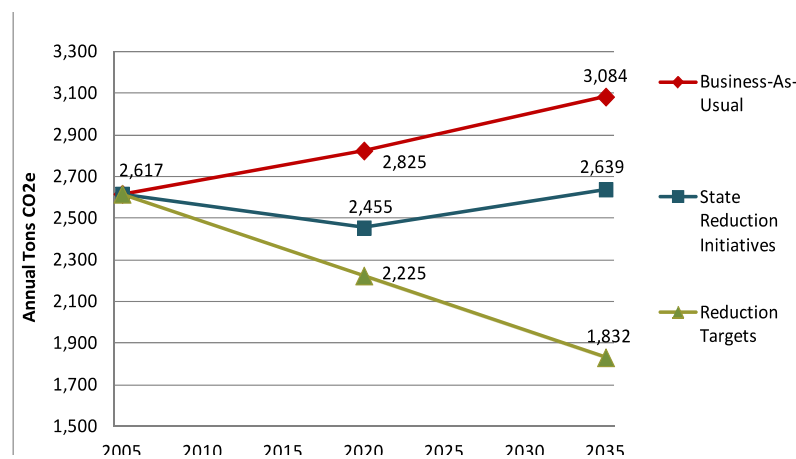
The growth of municipal GHG emissions under a Business-As-Usual (BAU) scenario was projected for the years 2020 and 2035. Similar to the methodology for projecting growth in community-wide emissions, we assume that existing growth rates can be applied to the City’s future emissions. The methodology for projecting growth in municipal emissions can be found in *Appendix F, Municipal Forecast*. Projections show an increase, absent any measures to curb emissions, of nearly 10% by 2020 and an additional 8% by 2035, as shown in *Figure 4.2, Municipal Emissions Growth Projections and Reduction Targets*.

Fig. 4.2: Municipal Emissions Growth Projections and Reduction Targets			
	2005	2020	2035
Reduction Targets Below 2005	Baseline	15%	30%
Reduction Targets in Tons CO ₂ e		2,225	1,832
Business-As-Usual (BAU) Tons CO ₂ e	2,617	2,825	3,084
Tons CO ₂ e to Reduce from BAU Resulting from State Initiatives		- 370	- 444
Tons CO ₂ e to Reduce from BAU Resulting from City Initiatives		- 230	- 808
Total Emissions After Reductions (Tons CO₂e)	2,617	2,225	1,832

Municipal Reduction Targets

The City Council adopted the same reduction targets for the City’s municipal operations as it did for community-wide emissions: a 15% reduction from the 2005 baseline by 2020 and a 30% reduction from 2005 by 2035. The 2020 target is consistent with the recommendation for local government operations in the AB 32 *Scoping Plan*. Assuming municipal operations will grow at the rates predicted by the BAU scenario, the City will need to reduce its overall emissions by 600 tons by 2020 and 1,252 tons by 2035. Reductions attributable to State Initiatives (the Renewable Portfolio, Vehicle Efficiency, and Low-Carbon Fuel Standards) are projected to shave 370 and 444 tons of CO₂e off the BAU curve by 2020 and 2035 respectively. The City will then need to reduce municipal emissions by an additional 230 tons by 2020 and 808 tons by 2035.

Fig. 4.3: Municipal GHG Emissions Scenarios (2005-2035)



* The global warming potential of a greenhouse gas represents the amount of heat trapped by a certain mass of gas compared to heat trapped by that same mass of carbon dioxide.



MUNICIPAL GOAL #1:

Reduce transportation-related GHG emissions associated with the City’s operations and workforce by 15% by 2020 and 30% by 2035.

The City owns and operates a number of vehicles that serve important functions throughout El Cerrito, including passenger vehicles, vans, police vehicles, and light- and heavy-duty trucks. While this municipal fleet provides critical services to the community, the resultant emissions contribute the largest source of CO₂e within municipal operations. In addition, City employee commutes to and from work, resulting in a significant amount of vehicle miles traveled (VMT), are the 3rd largest source of GHG emissions associated with municipal operations. The City can aim to reduce these transportation-related emissions by improving the fuel efficiency of their vehicles, implementing routing-efficiency strategies and providing incentives for alternative transportation to City employees.

Objective M-1.1:

Reduce annual vehicle miles traveled (VMT) associated with employee commutes and work in the field.

Strategies include:

- P** Work with individual departments with fleets to develop fuel saving policies and programs. Potential policies and programs include route logistics planning, using fleet management software to monitor fleet use and performance, anti-idling policies, training in fuel-efficient driving.
- E** Hold an annual or semi-annual Green Commute Challenge for City employees to encourage all City staff to find alternatives to driving alone to work.
- E** Work with Contra Costa 511.org to offer employee incentives to use alternatives to driving alone.
- E** Purchase and install electric vehicle (EV) charging stations at City facilities where employees and/or customers park for more than 1 hour to facilitate use of electric vehicles.
- P** Identify and mitigate barriers to employees commuting by transit to work.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects

Objective M-1.2:

Green the municipal fleet by improving vehicle fuel efficiency and switching to cleaner fuel vehicles.

Strategies include:

- P** Update the City’s Environmentally Preferable Purchasing Policy (EPP) to encourage purchasing of low- and zero-emissions vehicles when replacing vehicles in the municipal fleet, whenever possible.
- E** Participate in regional EV readiness activities, as appropriate.
- E** Continue to use the Police Bike Patrol to increase police contact with the community and criminal apprehension rates, as well as promoting employee physical fitness and lower fuel costs,
- P** Create a municipal bicycle fleet for use by City Staff and train staff in bicycle safety. Consider compatibility of City bicycle fleet with bike-sharing facilities being installed throughout the BART system.

Objective M-1.3:

Reduce car travel associated with large City-sponsored events, such as the July 4th festival.

Strategies include:

- P** Provide and expand free or low-cost shuttles and/or bike-valet parking for City event participants.
- P** Promote walking and biking to these events through marketing and making links to public health campaigns such as Healthy Living/Active Living.

- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects



El Cerrito Police Department Bike Patrol



MUNICIPAL GOAL #2:

Reduce reliance on utility provided energy and water in municipal operations by 15% by 2020 and 30% by 2035.

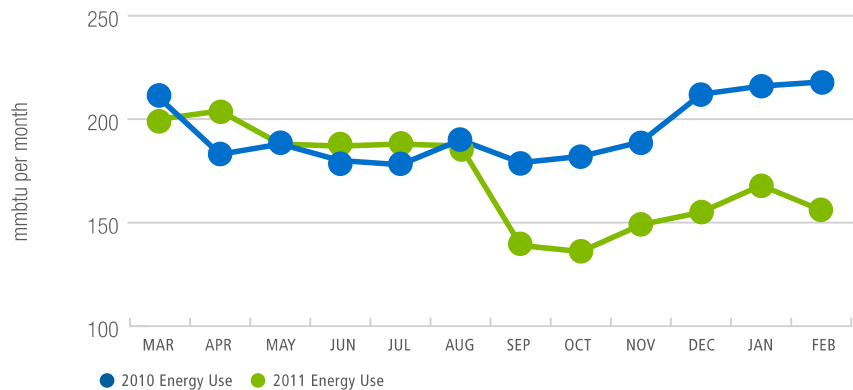
The City spends approximately \$500,000 per year to light its streets, power and heat its facilities, and irrigate its public spaces. By conserving energy and water and finding more renewable, decentralized sources of energy and water, the City will not only save money and reduce GHG emissions, but will also become more resilient to rate hikes and shortages.

Objective M-2.1:

Reduce overall energy and water use in municipal operations.

Since 2005 the City has taken many steps to improve the efficiency of its facilities, resulting not only in lower GHG emissions, but also in avoided energy and water costs and upgraded equipment. Due to favorable rebates and project cost-effectiveness, most of these projects, such as lighting retrofits, have been focused on saving electricity. Finding cost-effective projects to save natural gas will be more challenging. Such savings will arise more from optimal maintenance of heating, ventilation, and air conditioning (HVAC) equipment, weatherization improvements, and procurement standards that specify high efficiency models as older HVAC equipment is retired. Similarly, water savings will come primarily from a combination of changes in landscaping practices and irrigation technology.

Figure 4.4: Building Energy Use after Energy Efficiency Retrofits in 2011



Such savings will arise more from optimal maintenance of heating, ventilation, and air conditioning (HVAC) equipment, weatherization improvements, and procurement standards that specify high efficiency models as older HVAC equipment is retired. Similarly, water savings will come primarily from a combination of changes in landscaping practices and irrigation technology.

Strategies include:

- E** Develop a municipal energy and water efficiency plan, which creates a baseline for the City’s energy and water use, identifies energy and water inefficiencies in operations, and develops a rolling 3-year investment strategy for retrofitting or upgrading equipment.
- P** Regularly assess and maintain City facilities to ensure that City buildings and irrigation operate at optimal efficiencies.
- E** Create an energy and water efficiency revolving fund that directs utility rebates and a portion of dollar savings from past efficiency projects to be reinvested back into new efficiency projects.
- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

- P** As the utility phases in “time-variant pricing” and starts charging premium rates for energy use during peak hours (normal business hours), investigate ways to shift non-essential energy use to off-peak hours.
- E** Use an energy and water bill monitoring database to help monitor energy and water use and alerts users to anomalies in energy and water use.
- P** Develop outreach materials and training to encourage operational and behavior changes to minimize wasteful uses of energy and water.
- E** Pursue funding and technical resources to implement energy and water efficiency projects.

Objective M-2.2:

To lead by example, develop and implement a municipal solar energy strategy to locate solar energy projects at city facilities.



Solar electric panels at the new Recycling + Environmental Resource Center

Both solar electric and domestic hot water systems can be powerful strategies to curb the City’s greenhouse gas emissions and stabilize the cost of electricity for the City for decades. El Cerrito recently contracted to install solar photovoltaic systems at some of its larger facilities, which is projected to replace about 25% of the City’s electricity use with clean, renewable energy, while netting the City nearly \$3 million in avoided energy costs over the next 25 years. As the market for solar continues to improve, there is still potential for many of the other City facilities to use solar to meet a large majority of their electricity and/or hot water needs.

Strategies include:

- E** Assess all city facilities for the technical and economic feasibility of using solar photovoltaic systems to offset municipal electricity use. Develop a similar solar hot water assessment for city facilities.
 - E** Investigate procurement methods, incentives and financing strategies to lower up-front and long-term costs to procuring solar energy.
 - P** Monitor the solar market, incentives, and financing opportunities to procure renewable energy for municipal facilities where feasible and affordable.
- E** Existing Policies, Programs, or Projects
 - P** Potential Policies, Programs, or Projects

Objective M-2.3:

Use Bay-Friendly* and Water Smart irrigation practices and technologies to maintain the City’s landscaped facilities, parks, medians, and streetscapes, and to become more resilient to water shortages.

The majority of the City’s water use is for park and landscape irrigation. By adopting Bay-Friendly landscaping practices, native plant pallets, and weather-station enabled, centrally controlled irrigation systems, the City will be able to conserve millions of gallons of water per year and be more likely to maintain healthy and resilient landscapes, even in a time of drought. In addition, when feasible, installation of rainwater catchment or gray water systems in new projects can help offset use of potable water for non-potable uses such as irrigation and toilet flushing.

Strategies include:

- P** Procure and install weather-station enabled, centrally controlled irrigation systems for all irrigated city landscapes.
- E** Use Bay-Friendly landscaping techniques that use less water and energy and produce less waste.
- E** Monitor all water accounts for leaks and excessive use on a regular basis.
- P** Identify preventative maintenance measures to proactively address water leakage in City facilities.
- P** Where feasible, install gray water and rainwater catchment systems in new construction and major retrofit projects.



This 11,000 gallon rainwater cistern at the Recycling + Environmental Resource Center offsets use of potable water by using rainwater for toilet flushing and irrigation.



As part of improving San Pablo Avenue’s streetscape, the City converted the turfed areas in the medians to a Bay-Friendly landscape, saving about 1 million gallons of water per year.

* Bay-Friendly landscaping is a holistic approach to gardening and landscaping that fosters soil health, conserves water, minimizes maintenance requirements, and uses a plant pallet that is well suited for the natural conditions of the San Francisco Bay Area.

Objective M-2.4:

Convert City landscaped areas to drought-tolerant, Bay-Friendly landscapes, whenever possible.

Strategies include:

- P** Adopt a City policy that requires the specification of Bay-Friendly, drought-tolerant landscapes in any new City project or private project receiving City funds that include landscaped areas as a project element.
- P** Where feasible, and as funding allows, replace non-active turf areas maintained by the City with Bay-Friendly landscaping.

Municipal Climate Action since 2005

Sustainable Buildings

Since 2005, the City has accomplished the following to lower energy and water costs and make its building and landscapes more sustainable:

- Built the new Leadership in Energy and Environmental Design (LEED) Certified City Hall
- Created the Energy and Water Efficiency Program, which reinvents savings from previous energy and water efficiency to fund efficiency projects
- Completed the following energy efficiency projects to save \$63,000 in annual energy costs
 - Retrofitted all municipally operated buildings with energy efficient lighting
 - Installed LED street lights along San Pablo Avenue and LED area lights along the Ohlone Greenway
 - Retro-commissioned several HVAC systems
 - Installed efficiency measures to control the Swim Center Pool Pumps
- Built the new LEED Platinum Recycling and Environmental Resource Center
- Contracted to install 235 kW of solar energy on municipal facilities, offsetting an projected 25% of electricity used by the City.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects



MUNICIPAL GOAL #3:

Update the City’s project development and procurement practices to ensure the specification, development, and purchase of cost-effective environmentally preferable equipment and products.

As outlined in *Chapter 2, El Cerrito’s Greenhouse Gas Emissions*, the greenhouse gas inventory does not include emissions associated with the production, transport and use of products; however, developing strategies to increase demand for products that take less fossil fuels to produce and bring to market will also be critical in curbing GHG emissions. By considering the entire life cycle of a product from raw material extraction and production to disposal, an Environmentally Preferable Procurement policy can proactively reduce the environmental impacts, including to the climate, arising from our purchasing and project design decisions

Objective M-3.1:

Update the City’s Environmentally Preferable Procurement (EPP) policy and develop tools to better facilitate the procurement of resource-efficient and climate-friendly equipment and products.

Through an EPP policy, the City can make informed decisions about a product’s environmental impact on air, water, mineral, climate, and landfill resources. The City adopted an EPP in 2006* and will work to update the policy and provide adequate tools and specification to aid staff in making procurement decisions.

Strategies include:

- P** Adopt an updated policy that includes protocols, tools, and trainings to aid staff in specifying and purchasing items, such as:
 - Energy Star rated equipment;
 - Clean fuel vehicles and landscaping equipment;
 - Office equipment and furniture made of recycled content;
 - Products from manufacturers that minimize packaging waste and that offer take-back programs for products at the end of their useful life; and
 - Non-toxic janitorial and grounds maintenance products.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects

* El Cerrito City Council Resolution 2006-20.

Objective M-3.2:

Develop a Green Building Ordinance that stipulates a minimum level of environmental and energy performance for municipal and City-funded construction projects.

In 2008, the City built the new LEED[†] certified City Hall. In 2012, the City followed it up with the design and construction of the new LEED-Platinum Recycling and Environmental Resource Center. While these projects illustrate the City's commitment to water and energy efficient design, there is no formal policy in place requiring a minimum level of environmental performance for capital improvement and/or private projects receiving City funds.

A Green Building Ordinance would help institutionalize green building practices within City government and demonstrate leadership for private projects. An important green building strategy with large GHG reduction benefits is “zero-net energy” design, whereby a building's energy use is met through a combination of energy efficient design and on-site generation of renewable power. As zero-net energy buildings become more affordable and practical, the City should consciously design new municipal buildings with this strategy in mind.

Strategies include:

- P** Require newly constructed or renovated city buildings to achieve a minimum Silver or higher certification under LEED.
- P** Require newly constructed city buildings to strive towards zero-net energy design.
- P** Require private projects receiving City funds to achieve a minimum rating under LEED.
- P** Develop green construction/infrastructure standards for other municipal projects such as minor building renovations, playgrounds, parking lots, and streetscape improvements.



El Cerrito's LEED Certified City Hall

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects

[†] LEED (Leadership in Energy and Environmental Design) certification provides independent, 3rd-party verification that a building project, including its landscapes, meets a high performance standard. Awards range from Certified, Silver, Gold, and Platinum.

Objective M-3.3:

Continue to maintain an active pavement preservation and management program to both improve vehicle fuel economy of road users and to avoid major reconstruction of roads due to deferred maintenance.

According to a 2009 California Department of Transportation (CalTrans) report,[‡] pavement preservation and maintenance can be an important GHG emissions reduction strategy. Reconstructing roads “requires large amounts of energy to acquire and process raw materials, transport materials to the construction site, apply, remove, haul and recycle old materials. Over a 20-year period, these processes produce an estimated 212,000 pounds of GHG emissions per lane mile of roadway. Pavement preservation treatments, by contrast, would emit about 30,100 pounds of GHGs over this time, even when done more frequently. And because preservation treatments keep the roadway in better condition, motorists are able to travel steady speeds, thus promoting better fuel economy and even lower GHG emissions.”[§]

In 2008, El Cerrito voters approved the El Cerrito Pothole Repair, Local Street Improvement and Maintenance Measure (Measure A). This funding made it possible for the City to repair and resurface a majority of its streets, raising its Pavement Condition Index (PCI) to an average of 85 out of 100, going from having some of the worst streets to having some of the best in the Bay Area. Continuing to maintain the roads to a high standard not only protects El Cerrito’s investments, but drastically reduces the environmental impact of road repair.



Road reconstruction (top photo) due to deferred maintenance is more energy intensive than slurry seal applications (bottom photo) and other pavement preservation techniques.

Strategies include:

- E** By using pavement preservation and maintenance techniques to the extent feasible, maintain El Cerrito’s roads at a Pavement Condition Index (PCI) average of 85 out of 100, as made possible Measure A.

E Existing Policies, Programs, or Projects

P Potential Policies, Programs, or Projects

[‡] California Department of Transportation. “Prioritization of Transportation Projects for Economic Stimulus with Respect to Greenhouse Gases.” 2009.

[§] Metropolitan Transportation Commission. *The Pothole Report. Can the Bay Area Have Better Roads.* June, 2011.

- P** Investigate other cost-effective technologies, materials, and practices that further decrease the environmental impact of road repair and maintenance.

Objective M-3.4:

Develop a policy to reduce refrigerant emissions into the atmosphere to the lowest achievable and practical levels.

Refrigerants can be found in vehicles, air conditioning units and appliances and are a significant source of greenhouse gases. In the City they account for more CO₂e than building electricity usage. This is due to the very high global warming potential of refrigerant. The global warming potential of refrigerants, depending on type, range from five hundred to two thousand times that of CO₂, making it a significant contributor to climate change.

Emissions from leaks and recharging of air-conditioning units in City buildings and vehicles ranks as one of the top four sources in El Cerrito. By retiring older air conditioning units, purchasing more climate-friendly units, and ensuring their proper maintenance, this source of emissions can be significantly reduced. Indeed, by retiring some older air-conditioning units in 2009, the City has already cut CO₂e from refrigerants by nearly 50%.

Strategies include:

- P** As part of the Environmentally Preferable Procurement policy update, create a climate-friendly refrigerant specification for such common products as refrigerants, vehicles, and air conditioning units.
- P** Adopt an equipment maintenance standard to use best practices for refrigerant charge, leak detection, and disposal.
- P** Retire older equipment using refrigerants with a high global warming potential, such as R-408A.



MUNICIPAL GOAL #4:
Make City operations and facilities models of “reduce, reuse, recycle, and compost.”

Since 2005, the City has instituted organics, recycling, and universal waste collection at most City facilities. As Environmental Services expands the types of materials it can recycle, the quantity and type of recyclables collected at City facilities and during City-sponsored events has increased. The next steps are to ensure greater ease for both employees and visitors in using our waste diversion services, and, more importantly, to facilitate ways to reduce the amount of waste produced in the first place.

Objective M-4.1:

Institute robust recycling and food waste composting programs in all City facilities and provide on-going education to decrease contamination of recycling and composting streams.

Strategies include:

- E** Make recycling, food waste compost, and universal waste* collection services available at all city facilities.
- E** Educate city employees on how to use these services.
- P** Have City facilities participate in the overall community Waste Characterization study mentioned in W-1.1 in order to determine where greater waste diversion, reduction and education potential can be achieved within municipal operations.

Objective M-4.2:

As part of an updated the City’s EPP policy, create protocols, tools, and trainings to aid staff in specifying and purchasing recycled-content and low-waste products, equipment and materials.

Strategies include:

- P** Purchase recycled paint from paint manufacturers that have shown a commitment to formulating and marketing high quality recycled paint.
- P** Use recycled materials in capital improvement projects, such as in building construction and renovations, street paving and concrete treatments.
- P** Procure products from companies that minimize packaging waste and offer take-back programs.
- E** Existing Policies, Programs, or Projects
- P** Potential Policies, Programs, or Projects

* “Universal waste” is a category of very common waste items that contain materials that are designated as hazardous, such as batteries, electronics, and mercury containing equipment like fluorescent lamps and thermometers.

Objective M-4.3

Institute waste reduction policies and projects in City facilities.

Strategies include:

- P** Work with City staff in all departments to determine strategies to eliminate avoidable waste of materials, for example, enabling all computers and printers to use double-sided printing as their default setting, and upgrading permit processes to be online and/or paperless, where feasible and affordable.

Goal #	Fig. 4.5: Municipal Operations Summary of Goals and Objectives	Annual Tons CO2e Reduced	
		by 2020	by 2035
M-1	Reduce municipal transportation related GHG emissions by 15% by 2020 and 30% by 2035		
M-1.1	Reduce annual VMT associated with employee commutes and field work	100	134
M-1.2	Green the municipal fleet	12	20
M-1.3	Reduce car travel associated with large City-sponsored events	0.63	1
M-2	Reduce reliance on utility provided energy and water in municipal operations by 15% by 2020 and 30% by 2035		
M-2.1	Reduce overall energy and water use in municipal operations	200	334
M-2.2	Install solar energy projects on city buildings	112	140
M-2.3	Use Bay Friendly and Water Smart Irrigation practices and technologies	2	2.4
M-2.4	Convert City landscaped areas to “Bay-Friendly,” drought-tolerant landscapes (includes water, waste to landfill, and fuel savings)	82	113
M-3	Update the City’s project development and procurement practices to ensure the purchase of environmentally preferable projects, equipment, and products		
M-3.1	Update the City’s Environmentally Preferable Purchasing policy and tools	embedded energy, not measured	
M-3.2	Develop a green building ordinance for municipal buildings and projects	embedded energy, not measured	
M-3.3	Maintain an active pavement preservation and management program	embedded energy, not measured	
M-3.4	Reduce refrigerant emissions from City-owned AC units, vehicles, and refrigerators	295	322
SC-4	Make City operations a model of “reduce, reuse, recycle, and compost”		
M-4.1	Institute robust recycling and food waste composting programs in all City facilities	counted in community waste reductions	
M-4.2	Create protocols, tools, and trainings to aid staff in specifying and purchasing recycled-content equipment and materials	embedded energy, not measured	
M-4.3	Institute waste reduction policies and projects for City facilities.	embedded energy, not measured	
State	State Renewable Portfolio and Vehicle Fuel Efficiency Standards	counted in Community Strategy	
	Total Municipal Reductions Identified (Tons CO2e)	803	1,066



**PERSONAL
CLIMATE ACTION**

Thinking Globally, Acting Locally

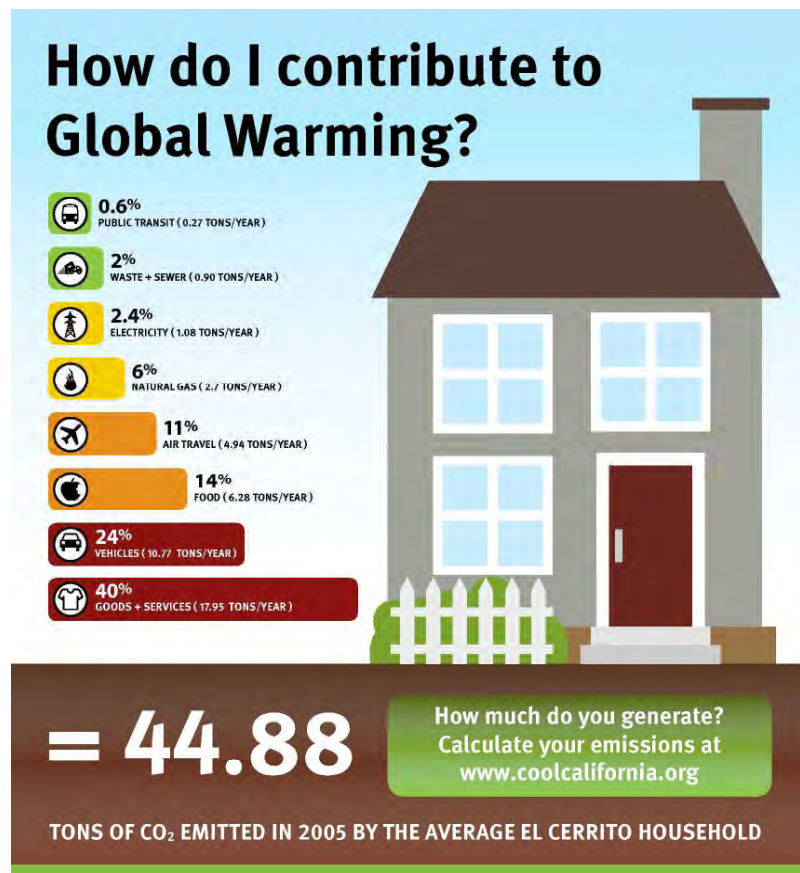
El Cerrito’s carbon footprint is larger than what is documented in the 2005 Baseline Inventory. The majority of goals and strategies proposed in Chapters 3 and 4 specifically address sources of emissions over which the City exercises some sort of influence, whether it be through leadership, outreach and education, projects, programs, or codes and ordinances. However, climate action in El Cerrito should not be limited to only the actions of the City. Achieving the significant GHG reductions needed to stabilize the climate will require everyone in the El Cerrito community to take action.

Helping El Cerrito Meet Its Reduction Goal

Many of the emissions reduction strategies discussed in this plan rely on voluntary participation by members of the community. Without wide-spread adoption and collaboration among residents, businesses, institutions, and the City, El Cerrito will not be able to achieve its reduction targets.

There are other sources of emissions that are beyond the scope of the CAP, but can still be reduced through voluntary actions. These emission sources include the production and transportation of food and goods* consumed in El Cerrito, transportation beyond City limits, and air travel† by El Cerritans. *Figure 5.1, Carbon Footprint of Average El Cerrito Household*, captures this greater carbon footprint. This average footprint was developed using University of California at Berkeley’s online *CoolClimate* carbon calculator.‡

Fig. 5.1: Carbon Footprint of Average El Cerrito Household



* Consumer Food and Goods: According to the US EPA, the provision of goods and food (from materials extraction, manufacture, and distribution) causes approximately 42% (29% for goods, 13% for food) of GHG emissions in the U.S.

† Air Travel: In 2005 U.S. citizens traveled approximately 1,900 miles per person per year on domestic airline routes (RITA, 2010). If El Cerritans are similar to the U.S. average, it can be assumed that El Cerritans also generated another 5 tons CO₂e per capita.

‡ Carbon footprint calculated on the UC Berkeley CoolClimate Calculator (<http://coolclimate.berkeley.edu>) using averaged income and energy data for El Cerrito households.

Figure 5.2, *A Household Climate Action Plan*, provides a sample of the types of actions households and individuals can take to both help El Cerrito implement the CAP and to reduce their overall carbon footprint. As illustrated in it only requires a few of the actions recommended in this Plan to meet and even surpass a 15% reduction in household carbon emissions, while “Other Climate Actions” provides even greater reductions.

Fig. 5.2: A Household Climate Action Plan for 2020

	Lbs CO ₂ Reduced / Year	% of Household CO ₂
Actions to Implement the CAP*		
Commute car-free to work or school at least 1 more time per week	908	3%
Walk or bike instead of driving to conduct errands at least 5 miles per week	239	1%
Seal and insulate your attic	1,119	4%
Seal and insulate your walls	1,117	4%
Seal and insulate your floors	531	2%
Replace your old furnace and /or repair leaky furnace ducts	612	2%
Monitor your water bill and bring water use down to below 175 gallons per day	10	0%
Install solar PVs to offset 75% of electricity use	1,921	7%
Reduce garbage by 1/3rd	921	3%
Compost your food scraps	501	2%
Household* 15% Reduction Goal by 2020	4,221	15%
Total Reductions Identified per Household	7,879	28%
Other Climate Actions		
Convert your yard to Bay-Friendly Landscaping	2,048	7%
Plant and maintain at least 1 tree per person in household	469	2%
Grow some of your own fruits and vegetable (500 lbs per year)	350	1%
Eat from lower on the food chain (eat 1/2 the meat you normally would)	1,074	4%
Reduce food miles by buying regionally produced seasonal foods 75% of the time	251	1%
Additional Reductions Identified	4,192	15%
Total Reductions Identified per Household	12,071	43%
* Percentages based on CAP Inventory, where the average El Cerrito household is responsible for 28,140 lbs CO ₂ e per year.		

Climate Action in Your Community

Following are suggestions for promoting climate action in among friends, at work , school , places of worship and in the greater community.

Among Friends:

- Pledge to reduce your household carbon footprint by an additional 2-5% each year for the next 3 years and then encourage people you know to do the same.
- Start a “Low Carbon Diet” group to learn about and support each other in adopting low carbon habits. This can be done among friends, as part of a church group, or a neighborhood or civic group.

At Work, School, Places of Worship:

- Look for ways to increase efficiencies and decrease waste at your work or school.
- Contact the El Cerrito Recycling and Environmental Resource Center to see if your work or school is recycling all that it could or to get set up for organics collection for composting.
- Contact the Bay Area Green Business Program for a Green Business Certification.
- Purchase Energy Star appliances and equipment.
- Reduce paper waste by enabling printers to automatically print double-sided sheets.
- Monitor irrigation and repair water leaks.
- Contact EBMUD and PG&E to find out about programs to help your work or school reduce water and energy use.
- Contact 511 Contra Costa.org to develop a green commute incentive program for all employees.
- Work with your parent/teacher group to create a “walking bus” or “bike bus” to safely walk and bike kids to work.
- Form a Green Team at your work or school to identify and implement initiatives specific to your business or institution.



A “walking bus” is becoming a more common way to get kids safely to and from school.

Get Involved In You City:

- Contact the City’s Recycling and Environmental Resource Center to get on a list to receive monthly e-mail updates on environmental activities and programs in the City.
- Volunteer in an Earth Day work party.
- Join the City’s Environmental Quality Committee’s Green Teams to work on neighborhood clean up and local restoration projects all year round.
- Bring your ideas on environmental and climate change issues and projects to the City’s Recycling and Environmental Resource Center and/or Environmental Quality Committee.

Resources

Water Efficiency

EBMUD

ebmud offers survey kits and rebate incentives to conserve water and save you money

www.ebmud.com

1-866-403-2683

Energy Efficiency

PG&E Rebate Programs

pg&e offers online tools and rebate incentives to reduce energy usage and save you money

www.pge.com/myhome/saveenergymoney/moneysaver/

1-800-PGE-5000

East Bay Energy Watch (EBEW)

ebew provides energy efficiency programs for alameda and contra costa residents

<http://www.eastbayenergywatch.com/>

Clean Energy

PG&E California Solar Initiative (CSI) Rebate Program

csi offers rebate incentives to customers who install renewable energy systems on their buildings

<http://www.pge.com/csi/>

Trip Reduction

511 Contra Costa

511 provides free up-to-the-minute traffic, transit, rideshare, and bicycling information

www.511contracosta.org

925.969.0841 ext. 204

Waste Reduction

Recycling + Environmental Resource Center (RERC)

rec is a one-stop drop-off recycling center that can answer waste reduction/diversion questions

www.ecrecycling.com

(510) 215-4350

Green Business

Contra Costa Green Business Program

the green business program helps businesses green operations and rewards them for doing so

www.greenbiz.ca.gov

(925) 335-3220

Overall Sustainability

El Cerrito's Environmental Quality Committee (EQC)

eqc involves the community in understanding and reducing our impact on the environment

www.el-cerrito.org/eqc

Ecology Center

ecology action offers climate change action workshops for groups of 5-10

<http://www.ecologycenter.org/climatechange/>

(510) 548-2220 x240



IMPLEMENTATION

Implementation

El Cerrito has laid a strong foundation for achieving its goals. Ensuring that the CAP results in significant emissions reductions will require robust implementation and increased coordination across all sectors. The preceding chapters describe the principle sources of El Cerrito’s GHG emissions and outline related goals, objectives and strategies for achieving the community’s emissions reduction targets. This chapter broadly outlines the implementation and monitoring process.

Implementation will need to include regular evaluation and an adaptive approach that will be able to respond to updated information, changing policy, funding opportunities, and advancements in technology.

Implementation Considerations

At the end of this section, *Figure 6.3, Climate Action Implementation Scores*, summarizes all the goals and objectives outlined in the CAP. Figure 6.3 also provides information to help the City prioritize measures for implementation. Implementation considerations include:

- Is the objective enabled by an existing policy?
- Are there significant other benefits that would result from implementing the objective?
- How effective is the objective in reducing GHG emissions relative to other objectives?
- What is the estimated cost to the City to fully implement the objective, relative to other objectives?

Appendix M assigns a number to each of these considerations: positive factors, such as effectiveness, are rated on an ascending numerical scale, while negative factors, such as costs, are rated on a descending scale. Strategies receiving the highest number will tend to be the most effective and implementable. However, as state, federal and private sector organizations respond to climate change, new opportunities—such as new funding streams and technological advances--will arise that are not foreseen at this time. As the City responds to these opportunities, the CAP and these implementation scores will need to be revised.

Using this rating methodology, Figure 6.3 considers the relative cost of each objective. We intentionally did not develop budgets for each objective for a variety of reasons. First, costs will largely be determined by program or project design and should be developed as part of implementing each strategy that is listed under that objective. Second, costs

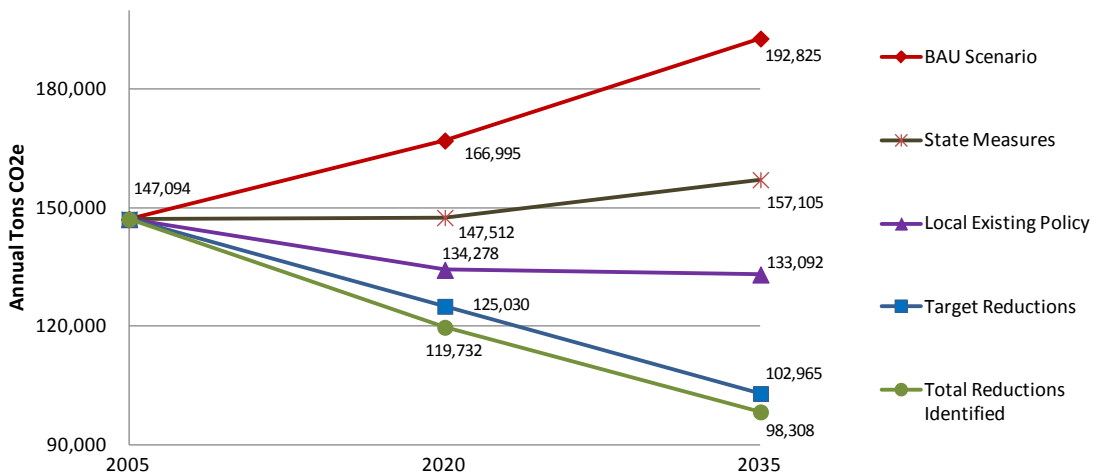
El Cerrito has laid a strong foundation for achieving its reduction targets. Ensuring that the CAP results in real emissions reductions will require robust implementation and increased coordination across all sectors of the community.

to the City in implementing a strategy could range widely depending on program or project goals, the availability of grant funding, and opportunities to partner with the private sector. Finally, most objectives that have high costs, such as redeveloping under-utilized land along transportation corridors, also have many other benefits. While their implementation also results in reduced GHG emissions, they are not undertaken primarily for this purpose.

Contribution of Strategies Toward Reduction Goals

El Cerrito has already done much work to set the stage for comprehensive implementation of the CAP, especially in relation to the CAP’s Sustainable Communities, Waste Reduction, and Municipal Goals. *Figure 6.1, Reductions from Existing and Proposed Strategies*, compares the CAP’s Emissions Business-As-Usual (BAU) and Reduction Target Scenarios against, first, a scenario involving full implementation of only those strategies already enabled by existing City policy, and, second, against a scenario where the full list of identified strategies in the CAP is implemented. The line labeled “Local Existing Policies” quantifies the potential reductions enabled by existing policies, plans, and/or programs, if robustly implemented. Thus, the differential between potential reductions resulting from the strategies that have already been enabled and our 2020 reduction target is approximately 9,300 tons. If the City and other agencies implemented the full list of strategies included in the CAP, we have the potential to exceed our 2020 goal by 4%, as depicted by the line labeled “Total Reductions Identified.”

Fig. 6.1: Reductions from Existing and Proposed Strategies



Reduction Potential by Emissions Source

Figure 6.2, Reduction Potential of Strategies, depicts the reduction potential of all identified strategies within each emissions source. In combination with the State Vehicle Fuel Standards, the City’s Sustainable Community (transportation, land use, and community development) strategies provide reductions commensurate with the transportation sector’s contribution to our baseline emissions, which comprised 51%

of total emissions in 2005. At 33%, local Energy and Water strategies, in combination with the State’s Renewable Portfolio Standards, contribute less towards the reduction targets than the energy and water sector’s contribution to the 2005 baseline, which was 44%. Finally, local waste reduction strategies contribute 14% towards the reduction goal, even though it comprises only 5% of the overall emissions.

Financial Considerations

Implementing the CAP over the next 22 years will require significant investment. The majority of investments will be made by the private sector as developers build projects in El Cerrito, homeowners and businesses improve the energy and water performance of their properties, and people purchase higher efficiency or electric cars and make different choices about their transportation habits. In a majority of cases, these investments will not be made primarily for the purpose of reducing GHG emissions, but rather for their significant other benefits. Many of these strategies will be implemented to increase the quality of life in El Cerrito and to create long-term positive outcomes, such as redeveloping under-utilized land along El Cerrito’s transportation corridors, upgrading and maintaining the existing building stock, and saving consumers on fuel, natural gas, and electricity costs.

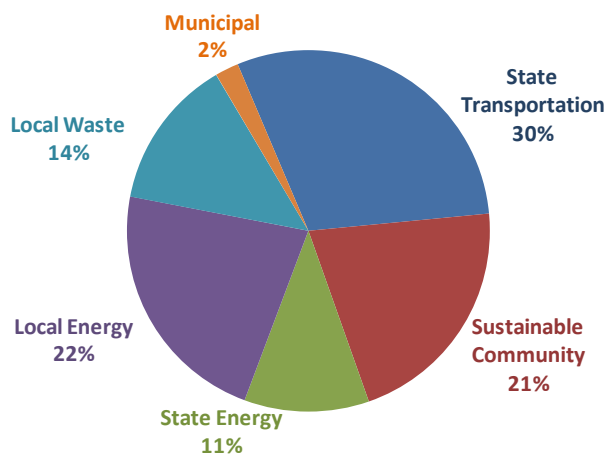
Implementing the CAP will also require sustained, strategic public investment by local, regional, state, and federal agencies. While the City can leverage its policy, permitting and leadership functions to help make climate protection “the new normal,” robust implementation of the CAP will also require outside funding and public/private partnerships. At the state and regional levels, existing and new revenue streams are being increasingly aligned with GHG emission reduction goals. For example, in late 2012, California passed legislation to dedicate a portion of revenues from AB 32’s Cap and Trade auctions to grants for GHG reductions. Also, a way of implementing SB 375, the Metropolitan Transportation Commission (MTC) is in the process of aligning regional transportation funding with infrastructure investments that support compact development along transportation corridors.

Monitoring and Continuous Improvement

Monitoring progress is a critical component to ensuring that we are on target to meet our emissions reduction goals. The Environmental Services Division will track emissions reductions, resource savings, and any other effects of each implemented measure.

- Every year, the Environmental Services Division will issue a CAP Implementation Report to

Fig. 6.2: Reduction Potential of Strategies



update the City Council, residents, and other interested stakeholders on progress towards implementing CAP objectives. The report will, at a minimum, detail activities to date and any lessons learned, and will make recommendations for changes to the implementation strategy or the CAP itself.

- Every five years, a full GHG inventory will be conducted. The results of the inventory should be reported to Council in a the CAP Implementation Report. Based on the results of the 5-Year GHG Inventory, changes may be made to the CAP to reflect new reduction goals and measures that would ensure the City is on track in meeting its reduction targets.

Next Steps

Upon adoption of the CAP the City will pursue the following next steps. The Environmental Services Division will:

- Develop the first Five-Year GHG Emissions Inventory to monitor actual progress towards the 2020 reduction target;
- Report back to the City Council, within the year, on the results of the 2012 Emissions Inventory and recommendations for a work-plan to guide implementation over the next three years;
- Continue to pursue opportunities to fund and implement specific strategies in the CAP.

Fig. 6.3: Climate Action Implementation Scores

Climate Action Implementation Scores

This is a summary of all the goals and objectives outlined in the CAP. It provides information to help the City prioritize measures for implementation. Implementation considerations include: Is the objective enabled by an existing policy? Are there significant other benefits that would result from implementing the objective? How effective is the objective in reducing GHG emissions relative to other strategies? What is the estimated cost to the City to fully implement the objective, relative to other objectives? A number is assigned to each of these considerations, where positive factors, such as effectiveness, are rated on an ascending numerical scale, and negative factors, such as costs, on a descending scale. Objectives receiving the highest number will tend to be the most effective and implementable.

Measure				Implementation Score (17 pts. possible)						
Goal #	Goals and Objectives			Effective-ness	Co-Benefits	Name of Benefits	Cost	Required	Total Score	% of Strategies Enabled by Current Policy
From CAP		in 2020	in 2035	1= low, 5=high	1= low, 5=high		5=low, 1=high	0=No, 2=Yes	sum of scores	
Sustainable Community										
SC-1	Encourage higher density TOD and infill development on transportation corridors									
SC-1.1	Update General Plan and other applicable plans and ordinances to support higher densities			4	4	Required activity that helps guide land use and municipal investment in the community	1	2	12	100%
SC-1.2	Develop planning mechanisms to encourage development of higher densities in designated areas			4	4	economic development; planning certainty	3	0	11	50%
SC-1.3	Develop and implement a parking demand management strategy to encourage high density development and alternatives to driving			4	4	congestion management; economic development	2	0	10	25%
SC-2	Diversify City's economy to increase the City's job base and to encourage more pedestrian-friendly economic activity									
SC-2.1	Create attractive walkable commercial areas			5	5	economic development; quality of life; place making	2	0	11	67%
SC-2.2	Enhance neighborhood serving commercial nodes and encourage commercial spaces in mixed-use areas			4	4	economic development; quality of life; jobs-housing balance	4	0	11	33%
SC-2.3	Encourage green practices in existing businesses and attract "green economy" businesses to El Cerrito			3	3	economic development; food security; quality of life	4	0	10	33%
SC-3	Invest in pedestrian-, bicycle-, and transit-friendly infrastructure									
SC-3.1	Create development standards for bicycle and pedestrian friendly design	10,027	20,378	3	3	air quality, public health, congestion mgmt; place making	4	0	10	50%
SC-3.2	Maintain an active streetscape improvement program			3	4	air quality, public health, congestion mgmt; place making	2	0	9	100%
SC-3.3	Implement the Ohlone Greenway Master Plan			3	4	air quality, public health, congestion mgmt; place making	2	0	9	67%
SC-3.4	Expand and improve the City's bicycle and pedestrian infrastructure			3	4	air quality, public health, congestion mgmt; infrastructure improvements	2	0	9	100%
SC-3.5	Work with regional agencies to support improvements and greater access to transit facilities			3	4	air quality, public health, congestion mgmt; infrastructure improvements	4	0	11	50%
SC-4	Increase and enhance urban green and open space									
SC-4.1	Develop a comprehensive Urban Greening Plan			3	4	quality of life, public health, place making, bio-diversity, environmental quality	3	0	10	100%
SC-4.2	Promote Bay Friendly tree planting and landscaping and the creation of public open and green spaces, including community gardens.			3	4	water conservation, food security, water quality, bio-diversity, environmental quality	2	0	9	60%
SC-5	Develop alternative transportation outreach and incentive programs									
SC-5.1	Encourage residents and businesses to adopt trip reduction programs			2	3	air quality, public health, congestion management	4	0	9	67%
SC-5.2	Develop education and outreach campaigns and events to promote walking, biking and taking transit	242	443	2	3	air quality, public health, congestion management, fuel savings	3	0	8	100%
SC-State	State transportation measures: fuel efficiency & low carbon content	14,189	27,167			air quality, public health, cost savings				
Total Sustainable Community Reductions Identified (Tons CO2e)		24,458	47,988							
Reductions from Existing (Enabled) Local Policy		6,642	13,458							

Measure				Implementation Score (17 pts. possible)						
Goal #	Goals and Objectives			Effective-ness	Co-Benefits	Name of Benefits	Cost	Required	Total Score	% of Strategies Enabled by Current Policy
From CAP		in 2020	in 2035	1= low, 5=high	1= low, 5=high		5=low, 1=high	0=No; 2=Yes	sum of scores	
Energy and Water Use										
EW-1	Reduce energy and water use in existing buildings by 20%									
EW-1.1	Promote and provide energy and water efficiency education & incentive programs in El Cerrito	2,736	10,411	4	3	cost savings, energy/ water security, resource conservation	2	0	9	60%
EW-1.2	Promote clean energy financing strategies, such as PACE, for property owners	887	1,953	4	4	cost savings, energy security, private investment	4	0	12	0%
EW-1.3	Utilize existing points of interaction with the City to encourage and/or require energy and water improvements	867	3,503	3	3	cost savings, energy/ water security, resource conservation	3	0	9	0%
EW-2	Encourage new construction to build to a higher level of green building and energy efficiency than is required by CA code									
EW-2.1	Encourage green building adoption and/or net-zero energy design in new construction	445	1,333	3	5	indoor air quality, cost savings, energy/ water security, natural resource protection	3	0	11	0%
EW-3	Reduce reliance on fossil fuel based energy by increasing renewable energy use in El Cerrito									
EW-3.1	Facilitate greater adoption of renewable energy use	1,061	3,566	4	4	cost savings, energy security, peak load mitigation	3	0	10	40%
EW-3.2	Join a Community Choice Aggregation	4,242	6,868	5	2	greater control of energy policy & programs	4	0	11	0%
EW-4	Encourage water conservation and diversify the community's water supply for non-potable uses.									
EW-4.1	Promote and provide water efficiency education & incentive programs in El Cerrito	63	95	2	4	cost savings, water security, resilience to drought	3	0	9	50%
EW-4.2	Encourage adoption of rainwater catchment and gray water irrigation systems			2	4	cost savings, water security, resilience to drought	4	0	10	0%
EW-State	State electricity measures: Renewable Energy Standard	5,294	8,553			clean air state-wide				
	Total Energy / Water Reductions Identified (Tons CO2e)	15,595	36,282							
	Reductions from Existing (Enabled) Local Policy	456	1,474							

Waste Reduction										
W-1	Reduce waste going to landfill to 4,000 tons by 2020 and 2,000 tons by 2035									
W-1.1	Increase participation in curbside waste reduction services in all sectors	6,324	8,397	4	4	Resource savings, pollution prevention, fewer landfills	4	0	12	60%
W-1.2	Expand one-stop waste diversion options at the Recycling and Environmental Resource Center			3	5	Resource savings, pollution prevention, fewer landfills, quality of life	4	2	14	100%
W-1.3	Reduce landfill waste from Construction and Demolition Projects			3	4	Resource savings, pollution prevention, fewer landfills	4	1	12	0%
W-1.4	Develop & implement a Zero-Waste Plan			3	4	Resource savings, pollution prevention, fewer landfills	3	0	10	0%
	Total Waste Reductions Identified (Tons CO2e)	6,324	8,397							
	Reductions from Existing (Enabled) Local Policy	5,758	8,528							

Measure				Implementation Score (17 pts. possible)						
Goal #	Goals and Objectives			Effective-ness	Co-Benefits	Name of Benefits	Cost	Required	Total Score	% of Strategies Enabled by Current Policy
From CAP		in 2020	in 2035	1= low, 5=high	1= low, 5=high		5=low, 1=high	0=No; 2=Yes	sum of scores	

Municipal Climate Action										
M-1	Reduce municipal transportation related GHG emissions by 15% by 2020 and 30% by 2035									
M-1.1	Reduce annual VMT associated with employee commutes and field work	100	134	4	5	air quality, public health, congestion management, fuel savings	4	2	13	60%
M-1.2	Green the municipal fleet	12	20	2	3		3	0	8	40%
M-1.3	Reduce car travel associated with large City-sponsored events	0.63	1.00	1	4		4	0	9	50%
M-2	Reduce reliance on utility provided energy and water in municipal operations									
M-2.1	Reduce overall energy and water use in municipal operations	200	334	5	4	cost savings, energy security	3	0	12	80%
M-2.2	Locate solar energy projects on city buildings.	112	140	5	4		2	0	11	100%
M-2.3	Use Bay Friendly and Water Smart Irrigation practices and technologies	2	2.4	2	4	aesthetics, natural habitat, air quality, water savings, maintenance savings, waste reduction	3		9	40%
M-2.4	Convert City landscaped areas to "Bay Friendly," drought-tolerant landscapes (includes water/waste/fuel savings)	82	113	3	5		1		9	50%
M-3	Update the City's project development and procurement practices to ensure the purchase of environmentally preferable projects, equipment, and products.									
M-3.1	Update the City's Environmentally Preferable Purchasing policy and tools	embedded energy, not measured		3	3	environmental leadership; pollution prevention; resource savings; indoor air quality; maintenance of city assets	5	0	11	0%
M-3.2	Develop a green building ordinance for municipal buildings and projects	embedded energy, not measured		4	5		4	0	13	0%
M-3.3	Maintain an active pavement preservation and management program	embedded energy, not measured		5	5		1	2	13	100%
M-3.4	Reduce refrigerant emissions from City-owned AC units, vehicles, and refrigerators	295	322	5	3		4	0	12	0%
M-4	Make City operations a model of "reduce, reuse, recycle, and compost"									
M-4.1	Institute robust recycling and food waste composting programs in all City facilities	counted in community waste reductions		5	4	Resource savings, pollution prevention, fewer landfills, quality of life	5	0	14	75%
M-4.2	Create protocols, tools, and trainings to aid staff in specifying and purchasing recycled-content products, equipment, and materials.	embedded energy, not measured		3	4		4	0	11	0%
M-4.3	Institute waste reduction policies and projects.	embedded energy, not measured		3	3		4	0	10	0%
Target Reductions (Tons CO2e)		801	1,685							
Total Municipal Reductions Identified (Tons CO2e)		803	1,064							
Reductions from Existing (Enabled) Policy/ Projects		378	553							

Total Community & Municipal Reductions (Tons CO2e)	2020	2035
Target Reductions at 15% and 30%	41,965	89,860
Reductions from State Policy	19,483	35,720
Reductions from Local Existing (Enabled) Policy	13,234	24,013
Remaining Reductions to Enable to Make Targets	9,248	30,127
Total Possible Reductions Identified	47,180	93,732
% CO2e reduced if all measures successfully implemented	19%	33%

List of Acronymns

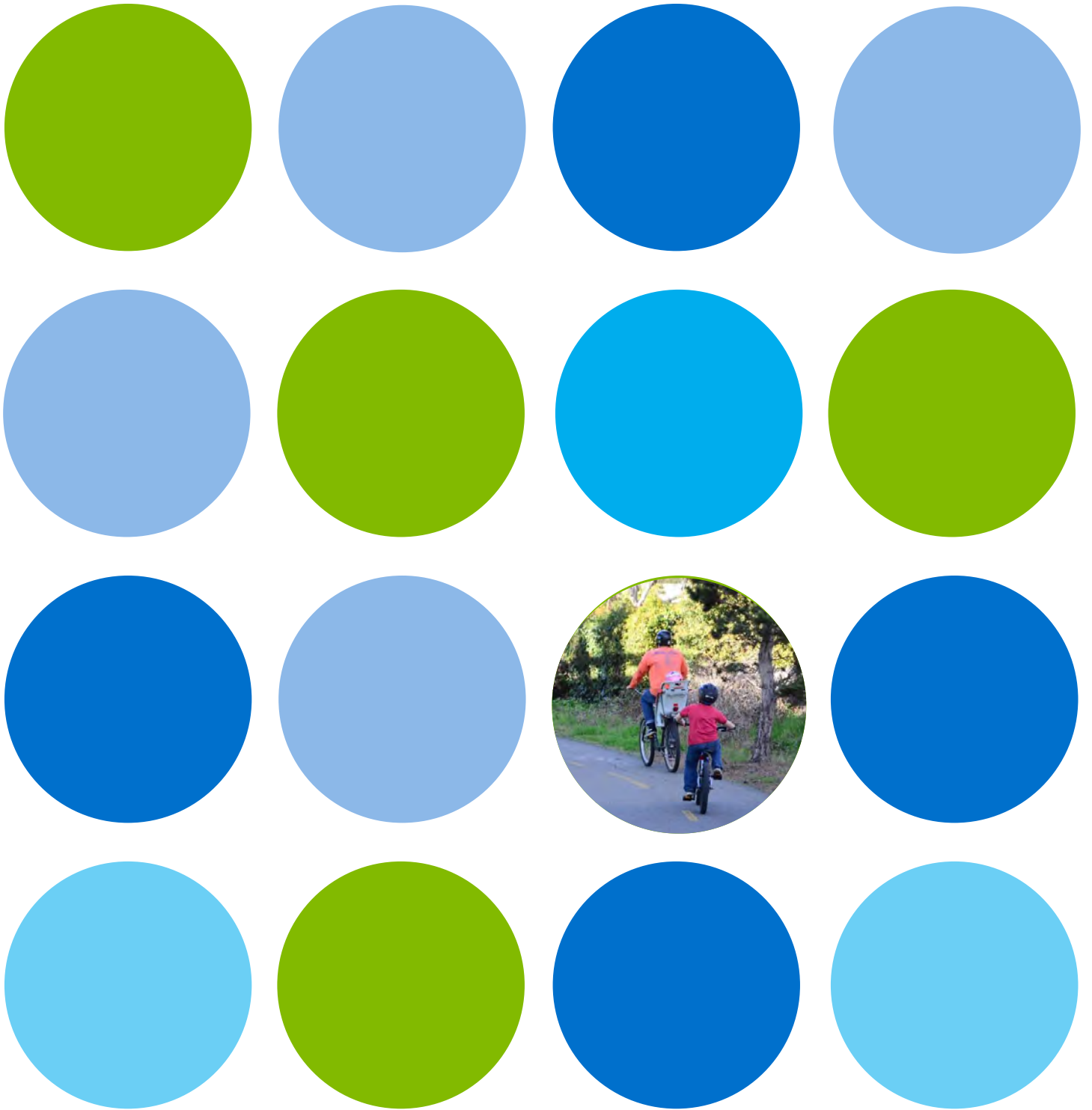
511.org	Bay Area traffic, transit and rideshare information
ABAG	Association of Bay Area Governments
AB32	The California Global Warming Solutions Act of 2006
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BAU	Business-As-Usual Scenario
BCDC	Bay Conservation and Development Commission
CACP	Clean Air Climate Protection
CalGreen	California Green Buildings Standard
CalTrans	California Department of Transportation
CAP	climate action plan
CAPPA	Climate and Air Pollution Planning Assistant
CARB	California Air Resources Board
CCA	Community Choice Aggregation
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CRA	California Resources Agency
EBMUD	East Bay Municipal Utility District
EIR	environmental impact review
EO	Executive Order
EPA	Environmental Protection Agency
EPP	Environmentally Preferable Purchasing Policy
EQC	Environmental Quality Committee
ESD	Environmental Services Division
EV	electric vehicle
GHG	greenhouse gas
HVAC	Heating, ventilation and air conditioning
ICLEI	Local Governments for Sustainability
ICMA	International City/County Management Association
IPCC	Intergovernmental Panel on Climate Change
kW	kilowatt
kWh	kilowatt hour
lbs	pounds
LEDs	light-emitting diodes
LEED	Leadership in Energy and Environmental Design
LGOP	Local Government Operations Protocol
MCE	Marin Clean Energy
MFD	multifamily dwelling
mpg	miles per gallon
MTC	Metropolitan Transportation Commission
MT	metric ton
PACE	property-assessed clean energy
PCI	Pavement Condition Index
PG&E	Pacific Gas and Electric Company
ppm	parts per million

PV	photovoltaic
RHNA	Regional Housing Needs Assessment
RPS	Renewable Portfolio Standard
SCS	Sustainable Community Strategy
SP	service population
TOD	Transit-oriented development
U.S. EPA	United States Environmental Protection Agency
VMT	vehicle miles travelled
WCCTAC	West Contra Costa Transportation Advisory Committee
WestCAT	Western Cotnra Costa Transit Authority

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