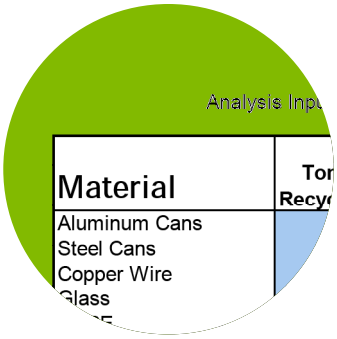
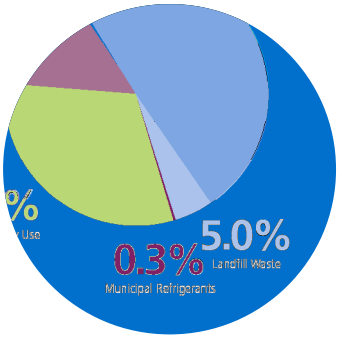
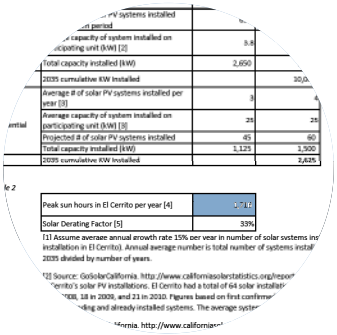






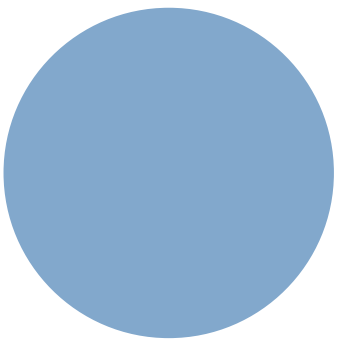
Total capacity installed (kW)	2,650	
2035 cumulative KW Installed		10,0
Average # of solar PV systems installed per year [3]	3	
Average capacity of system installed on participating unit (kW) [3]	25	25
Projected # of solar PV systems installed	45	60
Total capacity installed (kW)	1,125	1,500
2035 cumulative KW Installed		2,625

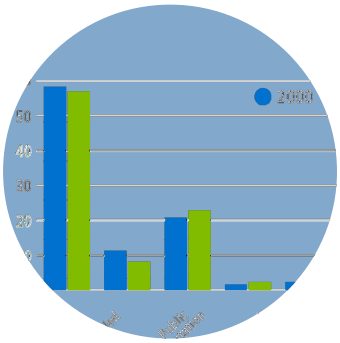
Peak sun hours in El Cerrito per year [4]	5.16
Solar Derating Factor [5]	33%

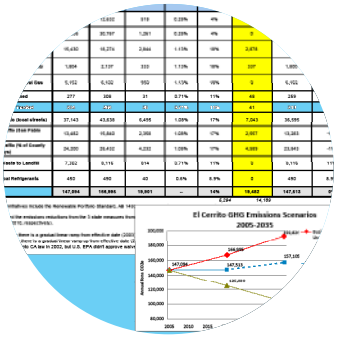
(1) Assume average annual growth rate 15% per year in number of solar systems ins installation in El Cerrito). Annual average number is total number of systems instal 2035 divided by number of years.

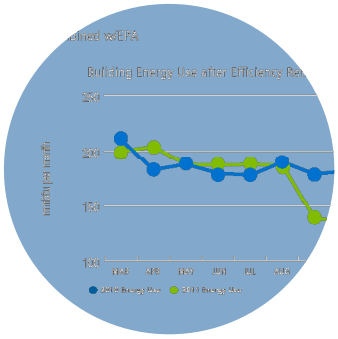
*[2] Source: GoSolarCalifornia. http://www.californiasolarstatistics.org/repor *errito's solar PV installations. El Cerrito had a total of 64 solar installati *008, 18 in 2009, and 21 in 2010. Figures based on first confirme *ding and already installed systems. The average syste

*rnia. http://www.californi









City of El Cerrito
CLIMATE ACTION PLAN

VOLUME 2: TECHNICAL APPENDICES. 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

10890 San Pablo Avenue

El Cerrito, CA 94530

THE CITY OF EL CERRITO

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Appendix A
El Cerrito City Council Climate Action Resolutions

RESOLUTION 2006-61

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EL CERRITO ENDORSING THE U.S. MAYORS CLIMATE PROTECTION AGREEMENT

WHEREAS, the U.S. Conference of Mayors has previously adopted strong policy resolutions calling for cities, communities and the federal government to take actions to reduce global warming pollution; and

WHEREAS, the Inter-Governmental Panel on Climate Change (IPCC), the international community's most respected assemblage of scientists, has found that climate disruption is a reality and that human activities are largely responsible for increasing concentrations of global warming pollution; and

WHEREAS, recent, well-documented impacts of climate disruption include average global sea level increases of four to eight inches during the 20th century; a 40 percent decline in Arctic sea-ice thickness; and nine of the ten hottest years on record occurring in the past decade; and

WHEREAS, climate disruption of the magnitude now predicted by the scientific community will cause extremely costly disruption of human and natural systems throughout the world including: increased risk of floods or droughts; sealevel rises that interact with coastal storms to erode beaches, inundate land, and damage structures; more frequent and extreme heat waves; more frequent and greater concentrations of smog; and

WHEREAS, on February 16, 2005, the Kyoto Protocol, an international agreement to address climate disruption, went into effect in the 141 countries that have ratified it to date; 38 of those countries are now legally required to reduce greenhouse gas emissions on average 5.2 percent below 1990 levels by 2012; and

WHEREAS, the United States of America, with less than five percent of the world's population, is responsible for producing approximately 25 percent of the world's global warming pollutants; and

WHEREAS, the Kyoto Protocol emissions reduction target for the U.S. would have been 7 percent below 1990 levels by 2012; and

WHEREAS, many leading US companies that have adopted greenhouse gas reduction programs to demonstrate corporate social responsibility have also publicly expressed preference for the US to adopt precise and mandatory emissions targets and timetables as a means by which to remain competitive in the international marketplace, to mitigate financial risk and to promote sound investment decisions; and

WHEREAS, state and local governments throughout the United States are adopting emission reduction targets and programs and that this leadership is bipartisan, coming from Republican and Democratic governors and mayors alike; and

WHEREAS, many cities throughout the nation, both large and small, are reducing global warming pollutants through programs that provide economic and quality of life benefits such as reduced energy bills, green space preservation, air quality improvements, reduced traffic congestion, improved transportation choices, and economic development and job creation through energy conservation and new energy technologies; and

WHEREAS, mayors from around the nation have signed the U.S. Mayors Climate Protection Agreement which, as amended at the 73rd Annual U.S. Conference of Mayors meeting, reads: The U.S. Mayors Climate Protection Agreement A. We urge the federal government and state governments to enact policies and programs to meet or beat the target of reducing global warming pollution levels to 7 percent below 1990 levels by 2012, including efforts to: reduce the United States' dependence on fossil fuels and accelerate the development of clean, economical energy resources and fuel-efficient technologies such as conservation, methane recovery for energy generation, waste to energy, wind and solar energy, fuel cells, efficient motor vehicles, and biofuels; B. We urge the U.S. Congress to pass bipartisan greenhouse gas reduction legislation that includes 1) clear timetables and emissions limits and 2) a flexible, market-based system of tradable allowances among emitting industries; and C. We will strive to meet or exceed Kyoto Protocol targets for reducing global warming pollution by taking actions in our own operations and communities such as: 1. Inventory global warming emissions in City operations and in the community, set reduction targets and create an action plan. 2. Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities; 3. Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for car pooling and public transit; 4. Increase the use of clean, alternative energy by, for example, investing in "green tags", advocating for the development of renewable energy resources, recovering landfill methane for energy production, and supporting the use of waste to energy technology; 5. Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting and urging employees to conserve energy and save money; 6. Purchase only Energy Star equipment and appliances for City use; 7. Practice and promote sustainable building practices using the U.S. Green Building Council's LEED program or a similar system; 8. Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-idling messages; convert diesel vehicles to bio-diesel; 9. Evaluate opportunities to increase pump efficiency in water and wastewater systems; recover wastewater treatment methane for energy production; 10. Increase recycling rates in City operations and in the community; 11. Maintain healthy urban forests; promote tree planting to increase shading and to absorb CO2; and 12. Help educate the public, schools, other jurisdictions, professional associations, business and industry about reducing global warming pollution.

NOW, THEREFORE, BE IT RESOLVED that the City of El Cerrito endorses the U.S. Mayors Climate Protection Agreement as amended by the 73rd annual U.S. Conference of Mayors meeting and urges mayors from around the nation to join this effort.

BE IT FURTHER RESOLVED, The City of El Cerrito will work in conjunction with ICLEI Local Governments for Sustainability and other appropriate organizations to track progress and implementation of the U.S. Mayors Climate Protection Agreement as amended by the 73rd annual U.S. Conference of Mayors meeting.

* * * * * * *

I CERTIFY that at a regular meeting on July 17, 2006 the City Council of the City of El Cerrito passed this Resolution by the following vote:

AYES: COUNCILMEMBERS: Bridges, Jones, Moore, Potter and Abelson
NOES: COUNCILMEMBERS: None
ABSENT: COUNCILMEMBERS: None

IN WITNESS of this action, I sign this document and affix the corporate seal of the City of El Cerrito on July 18, 2006.

Carol Jean Wilson, City Clerk

APPROVED:

Janet Abelson, Mayor

RESOLUTION 2006-93

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EL CERRITO ENDORSING CALIFORNIA'S GREENHOUSE GAS EMISSION REDUCTION TARGETS AT THE NOVEMBER 10, 2006 CLIMATE PROTECTION SUMMIT

WHEREAS, increased temperatures due to higher greenhouse gas levels in the atmosphere threaten to adversely impact water quality and supply, to exacerbate air quality problems, and to adversely impact human health by increasing heat stress and related deaths, the incidence of infectious disease, and the risk of asthma respiratory and other health problems; and

WHEREAS, local and regional governments impact energy usage through their actions concerning land use, transportation, air quality, and planning; and

WHEREAS, actions taken by government to reduce greenhouse gas emissions and increase energy efficiency provide multiple benefits by improving air quality and public health, reducing energy expenditures, and saving money for government, business and residents; and

WHEREAS, California has taken a leadership role in climate protection by implementing the motor vehicle greenhouse gas emission reduction regulations, implementing the Renewable Portfolio Standard, implementing the most effective building and appliance efficiency standards in the world, and on June 1,2005, establishing greenhouse gas reduction targets for the State:

- By 2010 to reduce greenhouse gas emissions to 2000 levels,
- By 2020 reduce greenhouse gas emissions to 1990 levels, and
- By 2050 to reduce greenhouse gas emissions to 80 percent below 1990 level, and

WHEREAS, The City of El Cerrito supports all efforts to reduce greenhouse gas emissions; and

WHEREAS, many Bay Area counties and cities have pledged to reduce their greenhouse gas emissions; and

WHEREAS, the Bay Area Air Quality Management District is holding a climate protections summit on November 10,2006 in San Francisco at which Al Gore will speak, offering a major opportunity for Bay Area leaders to align and mobilize the region as well as to inspire communities nationwide; and

WHEREAS, the City of El Cerrito aims to inspire climate protection action throughout the Bay Area and beyond.

NOW THEREFORE, BE IT RESOLVED, that the City of El Cerrito Mayor and Councilmembers join other Bay Area cities and counties in announcing endorsements of California's greenhouse gas emission reduction targets or better at the November 10, 2006, climate protection summit,

I certify that at a regular meeting on November 6, 2006, the El Cerrito City Council passed this resolution by the following vote:

AYES: Councilmembers Bridges, Jones, Moore, Potter and Abelson
NOES: None
ABSENT: None

Carol Jean Wilson

Carol Jean Wilson, City Clerk

Approved:

Janet Abelson

Janet Abelson, Mayor

RESOLUTION 2011–12

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EL CERRITO ADOPTING GREENHOUSE GAS EMISSIONS REDUCTION TARGETS OF 15% BELOW 2005 EMISSIONS LEVELS BY 2020 AND 30% BELOW 2005 LEVELS BY 2035

WHEREAS, there is a scientific consensus, as established by the Intergovernmental Panel on Climate Change and confirmed by the National Academy of Sciences, that the continued buildup of anthropogenic greenhouse gases in the atmosphere threatens the stability of the global climate; and

WHEREAS, there are significant long-term risks to the economy and the environment of the United States, California, and the City of El Cerrito from the climatic disruptions that are projected to result from increased greenhouse gas concentrations; and

WHEREAS, the City of El Cerrito has adopted resolutions supporting state and local actions to reduce greenhouse gas emissions, including Resolutions 2006-61 endorsing the U.S. Mayors Climate Protection Agreement, and 2006-93 endorsing the reduction targets of the California Global Warming Solutions Act (AB 32); and

WHEREAS, local governments greatly influence their community's greenhouse gas emissions by providing leadership and by exercising key powers over land use, transportation infrastructure, building construction, and waste management; and

WHEREAS, local government actions to reduce greenhouse gas emissions provide multiple local benefits by decreasing air pollution, creating jobs, reducing energy expenditures, and saving money for City government, its businesses, and its citizens; and

WHEREAS, on May 5, 2008 the City of El Cerrito adopted Resolution 2008-33 accepting El Cerrito's 2005 baseline greenhouse gas emissions inventory and directing staff to develop a Climate Action Plan, which includes the establishment of greenhouse gas emissions reduction targets; and

WHEREAS, the State of California's *AB 32 Scoping Plan* recommends that local governments reduce emissions by 15% below "current" levels by 2020, and the Bay Area Air Quality Management District also recommends that local government Climate Action Plans use this goal; and

WHEREAS, meeting these targets will require a steady decrease in emissions over the next 25 years and will be the result of implementing an array of strategies across all sectors, which will be considered in the El Cerrito Climate Action Plan.

NOW THEREFORE, BE IT RESOLVED, by the City Council of the City of El Cerrito that it does hereby adopt the following greenhouse gas emissions reduction targets for the El Cerrito community and its own city operations: 15% below 2005 emissions levels by 2020 and 30% below 2005 levels by 2035.

BE IT FURTHER RESOLVED, that this Resolution shall become effective immediately upon passage and adoption.

I CERTIFY that at a regular meeting on February 22, 2011 the City Council of the City of El Cerrito passed this Resolution by the following vote:

AYES: Councilmembers Abelson, Benassini, Jones, Lyman and Mayor Cheng

NOES: None

ABSENT: None

IN WITNESS of this action, I sign this document and affix the corporate seal of the City of El Cerrito on February 23, 2011.

Cheryl Morse, City Clerk

APPROVED:

Ann Cheng, Mayor

Appendix B
Baseline Community GHG Emissions Inventory, 2005

Methodology

El Cerrito's baseline inventory of greenhouse gas emissions was completed in 2008 and then later refined in 2010 to be as consistent as possible with the guidance on quantifying GHGs provided by the Bay Area Air Quality Management District (BAAQMD).* Compiling the baseline inventory required the collection of information from a variety of sectors and sources for the year 2005. The inventory covers carbon dioxide, natural gas, methane, and refrigerants emitted from the following activities:

- Energy and water use in the residential sector;
- Energy and water use in the commercial sector;
- Fugitive refrigerant emissions from the municipal sector;
- Vehicle miles traveled on all surface streets in El Cerrito;
- Vehicle miles traveled on all County highways attributable to El Cerrito's residents, businesses, and institutions; and
- Waste-to-landfills that are generated by El Cerrito residents, businesses, and institutions.

Units: All emissions have been converted into *short tons* of carbon dioxide equivalent (CO_2e) per year. While the international standard is to report emissions in terms of *metric tons* of CO_2e per year, we chose to use short tons in order to alleviate public confusion. This is mainly because many of the City's outreach materials on household actions to reduce GHGs are best framed in terms of pounds of CO_2, which easily converts into short tons for most readers in El Cerrito. A metric ton is 1.1023 times larger than an U.S. ton, and a metric tons consists of 2,204.6 pounds (lbs).

Emissions from Electricity: Data for CO_2e resulting from electricity use attributable to all residential, commercial and "direct access" utility accounts in El Cerrito was provided by Pacific Gas and Electric using the kWh-to-CO_2e coefficients below. There are no industrial accounts in El Cerrito. Electricity use in any given year (and the emissions from its generation) can have anomalies due to the weather, economic downturns, or the available source of electric generation. For this reason, El Cerrito averaged the tons of CO_2e over three years spanning 2004, 2005, and 2006. PG&E reports the following emissions coefficients for 2003 through 2008:

- 2003: 1 kWh = 0.620 lbs CO_2e
- 2004: 1 kWh = 0.566 lbs CO_2e
- 2005: 1 kWh = 0.489 lbs CO_2e
- 2006: 1 kWh = 0.456 lbs CO_2e
- 2007: 1 kWh = 0.636 lbs CO_2e
- 2008: 1 kWh = 0.641 lbs CO_2e

Emissions from Natural Gas: Data for natural gas use attributable to all residential and commercial utility accounts in El Cerrito was provided by Pacific Gas and Electric. There are no industrial accounts in El Cerrito.

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* "GHG Plan Level Quantification Guidance." Bay Area Air Quality Management District. May, 2010.

Natural gas use in any given year can have anomalies due to the weather and economic downturns. For this reason, El Cerrito used averaged natural gas use over three years spanning 2004, 2005, and 2006. The CO_2e coefficient for therms of natural gas is constant:

- 1 therm = 11.7 lbs of CO_2e

Transportation Emissions: As recommended by BAAQMD, emissions from gasoline and diesel fuel used by on-road vehicles have been included in the inventory. Since El Cerrito is a built-out, small urban jurisdiction, there are no emissions from off-road vehicles to include. Vehicle miles traveled (VMT) is the metric used to compute these emissions. The most reliable data source for city and county VMT data is the yearly "California Public Road Data," published by the California Department of Transportation (CalTrans) Highway Performance Monitoring System. The CO_2e coefficients for gasoline and diesel are below:

- 1 gallon of gasoline = 19.357 lbs of CO_2
- 1 gallon of diesel = 22.509 lbs of CO_2
- Average passenger vehicle fuel economy = 17.26 mpg

Emissions Due to Water Use and Wastewater Treatment: Assumptions used to estimate water-related electricity consumption for El Cerrito includes energy used for water supply, conveyance, treatment, distribution and waste water treatment in East Bay Municipal Utility District (EBMUD) territory. Energy use associated with pumping wastewater by Stege Sanitary District is included in commercial energy emissions. Per the study "Supply and Demand-Side Water Efficiency Opportunities," prepared by Green Building Studio for PG&E in 2007 contains the following electricity factors per acre foot for EBMUD water and waste water services. The PG&E kWh-to-CO_2e coefficient for 2005 was then used to convert electricity for water consumption and waste into CO_2e.

- 390 kWh per acre foot of potable water
- 472 kWh per acre foot of waste water

Emissions from Fugitive Refrigerant Emissions (Municipal Sector Only): Due to the lack of reliable data at the community level, fugitive refrigerant emissions were not calculated for the entire community inventory. Fugitive refrigerant emissions were, however, estimated for the municipal sector based on existing information. Specifically, fugitive emissions from the municipal vehicle fleet (air conditioning units within the vehicles) and municipal facilities (refrigeration and HVAC/air conditioning systems) were included. Calculation method from the Local Government Operations Protocol (LGOP) (Version May 2010 – Equation 7.13) was utilized to calculate these fugitive refrigerant emissions. The LGOP's recommended assumptions (e.g. charge capacity, operation emission factor) were also used when no data was available.

Emissions from Solid Waste in Landfills: Emissions from waste in landfills were estimated using tonnage of solid waste, by type, collected by East Bay Sanitary, as contained in the West County Resource Recovery. Tons of CO_2e reduced from tons of landfilled waste diverted calculated using the U.S. EPA's Waste Reduction Model (WARM). WARM is available on the EPA website at http://www.epa.gov/climatechange/waste/calculators/Warm_home.html. WARM calculates and totals GHG emissions of baseline and alternative waste management practices—source reduction, recycling, combustion, composting, and landfilling. The model calculates emissions in metric tons of carbon equivalent (MTCE), metric tons of carbon dioxide equivalent ($MTCO_2E$), which was converted to U.S. tons CO_2e for purposes of the El Cerrito CAP.

Appendix B1

Baseline Community GHG Emissions Inventory, 2005

End Use (2005)	US Tons CO2e	Metric Tons CO2e	% of Total
Energy Use			
Residential Electricity (3 Yr Avg)	12,114.21	10,989.84	8.24%
Residential Natural Gas (3 Yr Avg)	29,505.76	26,767.21	20.06%
Commercial Electricity (3 Yr Avg)	15,429.51	13,997.43	10.49%
Direct Access Electricity (2005)	1,804.00	1,636.56	1.23%
Commercial Natural Gas (3 Yr Avg)	5,151.97	4,673.80	3.50%
Subtotal	***64,005.46***	**58,064.84**	**43.51%**
Energy for Water Use			
Potable Water Use (3-Yr Avg)	276.79	251.10	0.19%
Wastewater Treatment (2005)	234.29	212.54	0.16%
Subtotal	***511.08***	**463.65**	**0.35%**
Transportation			
VMT (Local Streets)	37,143.00	33,695.60	25.25%
VMT (San Pablo Ave)	13,482.00	12,230.68	9.17%
VMT (% of County Highways)	24,200.00	21,953.90	16.45%
Subtotal	***74,825.00***	67,880.18	**50.87%**
Waste			
Solid Waste to Landfill	***7,302.31***	**6,624.55**	4.96%
Refrigerants (Municipal Only)			
Facilities-Fugitive Emissions	437.82	397.18	0.30%
Vehicles- Fugitive Emissions	12.40	11.25	0.01%
Subtotal	***450.21***	408.43	0.31%
Baseline Tons (Co2e) 2005	**147,094.06**	**133,441.65**	**100.00%**

Appendix B2
Baseline Emissions Inventory, 2005

Baseline Energy Data

Residential Electricity				3-Yr Avg			
Year	Annual KWH	Annual CO2 (US tons)	LB/KWH	CO2e (US tons)	kWH	Unit/ HHD	CO2e/HHD
2004	47,615,971	13,475	0.566				
2005	47,872,873	11,705	0.489	**12,114**	48,148,911	4,629.87	1.13
2006	48,957,890	11,162	0.456				
2007	48,522,856	15,430	0.636				
2008	47,831,699	15,330	0.641				
2009	47,977,694	15,377	0.641				
Residential Natural Gas				**3-Yr Avg**			
Year	Annual Therms	Annual CO2 (US tons)	LB/Therm	CO2e (US tons)	Therms	Unit/ HHD	CO2e/HHD
2004	5,118,996	29,946	11.7				
2005	4,933,327	28,860	11.7	**29,506**	5,043,720	477	2.79
2006	5,078,837	29,711	11.7				
2007	4,978,321	29,123	11.7				
2008	4,904,909	28,694	11.7				
2009	4,863,793	28,453	11.7				
Commercial Electricity				**3-Yr Avg**			
Year	Annual KWH	Annual CO2 (US tons)	LB/KWH	CO2e (US tons)	kWH	Unit/ SP	CO2e/SP
2004	62,308,648	17,633	0.566				
2005	61,106,994	14,941	0.489	**15,430**	61,189,024	2,110.40	0.53
2006	60,151,429	13,715	0.456				
2007	60,639,877	19,283	0.636				
2008	63,352,654	20,305	0.641				
2009	59,037,142	18,921	0.641	19,503	61,009,891		
Commercial Natural Gas				**3-Yr Avg**			
Year	Annual Therms	Annual CO2 (US tons)	LB/Therm	CO2e (US tons)	Therms	Unit/ SP	CO2e/SP
2004	890,817	5,211	11.7				
2005	877,203	5,132	11.7	**5,152**	880,679	30.37	0.18
2006	874,017	5,113	11.7				
2007	872,183	5,102	11.7				
2008	851,575	4,982	11.7				
2009	880,550	5,151	11.7	5,078	868,103		
Water Consumption				**3-Yr Avg**			
Year	Annual KWH	Annual CO2 (US tons)	LB/KWH	CO2e (US tons)	kWH	Unit/ SP	CO2e/Sp
2004	1,120,213	317	0.566				
2005	1,131,090	277	0.489	**277**	1,096,652	37.82	0.01
2006	1,038,653	237	0.456				
2007	1,040,253	331	0.636				
2008	1,045,515	335	0.641				
2009	985,780	316	0.641	327	1,023,849		
Waste Water Disposal						Unit/ SP	CO2e/Sp
2005	958,237	234	0.489	234.29		-	0.01

HHD = Households
SP= Service Population, the sum of residents and people who work in El Cerrito

Appendix B3
Baseline Emissions Inventory, 2005

Water and Wastewater Baseline Data

EBMUD Water Data for All El Cerrito Accounts								
Unit	2004	2005	2006	2007	2008	2009	Conversions	
Annual Units	1,251,277	1,263,427	1,160,175	1,161,962	1,167,839	1,101,116		
Annual Gallons	935,955,196	945,043,396	867,810,900	869,147,576	873,543,572	823,634,768	748	gallons/unit
Annual Acre Ft	2,872	2,900	2,663	2,667	2,681	2,528	325,851	gallons/AF
Annual kWh	1,120,213	1,131,090	1,038,653	1,040,253	1,045,515	985,780	390	kWh/AF [1]
Daily Gallons	2,564,261	2,589,160	2,377,564	2,381,226	2,393,270	2,256,534		
Daily Acre Ft	8	8	7	7	7	7		
Daily Gallons/ HHD	248	250	230	230	231	218		

Stege Sanitary District [2]		2,005					Conversions	
Annual Gallons of Waste Water [3]		661,530,377						
Annual Acre Ft		2,030						
Annual kWh [1]		958,237					472	kWh / AF treated

Notes:
[1] Electricity values from "Supply and Demand Side Water-Energy Efficiency Opportunities Final Report" Prepared for Pacific Gas and Electric Co, by Green Building Studio, Santa Rosa CA 707-569-7373

[2] Waste water is collected by Stege Sanitary District (SSD) and is treated by EBMUD facilities. SSD is located in El Cerrito and all electricity associated with collection of El Cerrito waste water is accounted for in the commercial electricity sector.

[3] Could not isolate El Cerrito portion of wastewater flow from Stege Sanitary District. Gallons are estimated based on 70% of total water demand.

HHD = household
AF = Acre Foot

Appendix B4
Baseline Emissions Inventory, 2005

Vehicle Miles Travelled (VMT) Baseline Data

Contra Costa County [1]	Total DVMT 1,000	Annual VMT (1000s)	El Cerrito VMT (1000s)	% of County	Tons CO2e [2]
ANTIOCH	735.14	268,326.10			
BRENTWOOD	134.79	49,198.35			
CLAYTON	99.17	36,197.05			
CONCORD	1,527.53	557,548.45			
DANVILLE	473.33	172,765.45			
EL CERRITO	158.61	57,892.65	57,892.65		
HERCULES	135.81	49,570.65			
LAFAYETTE	368.42	134,473.30			
MARTINEZ	382.98	139,787.70			
MORAGA	157.99	57,666.35			
OAKLEY	154.06	56,231.90			
ORINDA	265.51	96,911.15			
PINOLE	169.63	61,914.95			
PITTSBURG	536.52	195,829.80			
PLEASANT HILL	476.23	173,823.95			
RICHMOND	1,045.52	381,614.80			
SAN PABLO	250.62	91,476.30			
SAN RAMON	487.23	177,838.95			
WALNUT CREEK	1,078.95	393,816.75			
Local Roads Subtotal	**8,638.04**	**3,152,884.60**	**57,892.65**	**0.68%**	**37,143**
OTHER COUNTY ROADS					
UNINCORPORATED	1,666.57	608,298.05			
NATIONAL PARK SERVICE	1.8	657.00			
STATE HIGHWAY	12,992.22	4,742,159.50			
STATE PARK SERVICE	28.09	10,252.85			
Other County Roads Subtotal	**14,688.68**	**5,361,367.40**	**36,454.61**	**0.68%**	**24,200**
CONTRA COSTA Total	**23,326.72**	**8,514,252.00**	**94,347.26**	**1.11%**	
San Pablo Ave [3]	55.63	20,305.75	20,305.75		13,482
EL CERRITO Total			**114,653.02**		**74,825**

Notes:

[1] California Department of Transportation. 2005 CALIFORNIA PUBLIC ROAD DATA; STATISTICAL INFORMATION DERIVED FROM THE HIGHWAY PERFORMANCE MONITORING SYSTEM. Sacramento, September 2006.

[2] Tons CO2e calculated using ICLEI CACP 2009 transportation emissions assumptions: Vehicle fleet fuel use 95.2% gasoline and 4.8% diesel.

[3] VMT for San Pablo Ave (SPA) is extrapolated because 2.6 miles of SPA are owned by Cal Trans and is aggregated under “State Highway”. Using average daily traffic counts (average of 8 specific counts along the Avenue) from 2005 supplied by El Cerrito Public Works Dept, staff calculated SPA to have 20.3 million annual VMT. SPA numbers subtracted from the Other County Roads total to not double count highway miles counted in the State Highway vmt portion.

Appendix B5
Baseline Emissions Inventory, 2005

Solid Waste Baseline Data

Waste Characterization Study- 2005 [1]											
Waste [2]	Total Tons	Paper	Paper Tons	Food	Food Tons	Plant	Plant Tons	Wood/ Textiles	Wood Tons	Other	Other Tons
Residential	9,216.00	27.4%	2,525.18	20.0%	1,843.20	25.0%	2,304.00	1.4%	129.02	26.2%	2,414.59
Commercial	36.00	33.50%	12.06	16.7%	6.01	11.30%	4.07	7.4%	2.66	31.1%	11.20
Industrial [3]	2,224.00	25.0%	556.00	17.0%	378.08	13.0%	289.12	12.0%	266.88	33.0%	733.92
Subtotal	**1,476.00**		**3,093.24**		**2,227.29**		**2,597.19**		**398.57**		**3,159.71**
Green Waste [4]	3,303.00		-				3,303.00				
Total	**14,779.00**	**21%**	**3,093.24**	**15%**	**2,227.29**	**40%**	**5,900.19**	**3%**	**398.57**	**21%**	**3,159.71**

Solid Waste Tonnage	2005	2006	2007	2008	2009	2010	2011
Trash to Landfill	11,476	10,806	10,130	9,607	8,529	8,162	7,699
Green Waste	3,303	3,471	3,421	2,969	3,065	3,245	3,758
Recycling [5]	4,284	4,820	4,829	4,556	4,660	4,511	4,368
Total	**19,063**	**19,097**	**18,380**	**17,132**	**16,254**	**15,918**	**15,825**

GHG Emissions from Baseline Waste Management (MTCO2E): 2005 [6]							
Commodity	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total MTCO2E	Total US tons CO2e	
Food Scraps	NA	2,227.3	-	-	1595	1,758.71	
Yard Trimmings [4]	NA	5,900.2	-	-	(1062)	(1,170.92)	
Mixed Paper, Resid.	-	3,093.2	-	NA	724	798.44	
Mixed MSW	NA	3,558.3	-	NA	5367	5,916.09	
Total		**14,779.0**			**6625**	**7302**	

Notes:
[1] Waste percentages based on values contained in the California Integrated Waste Management Board, CALIFORNIA 2008 STATEWIDE WASTE CHARACTERIZATION STUDY. Sacramento. August 2009. http://www.calrecycle.ca.gov/Publications/General/Extracts/2009023/Tables.pdf. Accessed May, 2010.

[2]Tonnage for all waste excluding recyclables contained in the West County Resource Recovery's Annual Report for 2005 prepared by RecycleMore, West Contra Costa Integrated Waste Management Authority, 1 Alvarado Square, San Pablo, CA 94806.

[3] Anything picked up by East Bay Sanitary roll-off trucks, either regular compactor customers or residential or construction debris boxes are classified as "industrial."

[4] Greenwaste collected in 2005 was still going to the landfill as Alternative Daily Cover (ADC). Starting 2009 it was being diverted and turned into compost; therefore, it is included as “Yard Trimmings” in landfill for purposes of converting waste tons to tons CO2e.

[5] Both curbside and drop-off recycling is operated by the City of El Cerrito. Recycling tonnage reported by Garth Schultz, Environmental Services Division, 510-215-4350.

[6] Calculations for conversion of solid waste tonnage to GHG emissions done through U.S. Environmental Protection Agency, Waste Reduction Model (WARM), http://www.epa.gov/climatechange/waste/calculators/Warm_home.html. Accessed, May 1020.

Appendix B6.a
Baseline Emissions Inventory, 2005

Fugitive Emissions from Refrigerants in Municipal Facilities

1. Refrigerants From Domestic Refrigerator Units (2005)

Equipment Type	Number of Domestic Fridges	Type of Refrigerant [1]	# of Fridges Disposed in 2005	# of Remaining Fridges	Time unit used (yr)	Assumed Capacity (kg)	Operating Emission Factor [3]	Annual HFC-23 Emissions (metric tons) [2]	Annual CO2e Emissions (metric tons)
1 (new unit)	1	HFC-23	0	1	50%	25	0.50%	0.000063	0.73
2 (existing unit)	1	HFC-23	0	1	100%	20	0.50%	0.000100	1.17
Total									**1.90**

[1] Refrigerant is HFC-23, per staff check.
[2] HFC-23 has a global warming potential of 11,700. Source: LGOP Table E.1
[3] California Air Resources Board, et al. *Local Government Operations Protocol* (LGOP). May, 2010. Table 6.4.

2. Refrigerants From Commercial A/C Units

Equipment Type	Number of Comm. A/C units	Type of Refrigerant [2]	# of A/C Disposed in 2005	# of Remaining A/C	Time units used (yr)	Assumed Capacity (kg) [1]	Operating Emission Factor [3]	"Annual R-408A Emissions/ per unit (metric tons) "	Annual CO2e Emissions (metric tons)
Commercial A/C	1	R-408A	0	1	33%	50	10%	0.0017	3.24
Existing Units, All Types	23	R-408A	0	23	33%	100	10%	0.0033	149.04
Total									**152.28**

[1] Except in several instances, the capacity of the rest of the units was unavailable. Assume capacity of 100, based on recommendation provided by LGOP - utilize conservative values for capacity.

[2] Refrigerant is R-408A. The refrigerant type for most of the units was not available, and based on spot checks of a small sample of units. Based on this, assume all other units used R-408A. R-408A has a global warming potential of 1,944. Source: LGOP Table E.2.

[3] LGOP Table 6.4.

3. Refrigerants From Chillers

Equipment Type	Number of Chillers	Type of Refrigerant	# of Chillers Disposed in 2005	# of Remaining Chillers	Time unit used (yr)	Capacity (kg)	Operating Emission Factor [3]	Annual R-408A Emissions (metric tons)	Annual CO2e Emissions (metric tons)
1 (old/disposed unit)	1	R-408A	1	0	50%	1000	15%	0.125	243
Total									**243**

[1] Source: City of El Cerrito, Public Works Department.
[2] Refrigerant is R-408A. R-408A has a global warming potential of 1,944. LGOP Table E.2.
[3] LGOP Table 6.4.

Summary

TOTAL CO2e (metric tons)	397
TOTAL CO2e (tons)	438

Appendix B6.b
Baseline Emissions Inventory, 2005

Fugititive Emissions from Refrigerants in Municipal Vehicle Fleet

Vehicles with Air Conditioning in Use in 2005				
Number of Type (by Estimated Emissions)	"Operating Emission Factor (% of capacity/ year) [1]"	"Estimated Emissions of Refrigerant per vehicle (metric tons)"	" Annual CO2e Emissions (metric tons) [3] "	Notes
2	20%	0.000085	0.22	Existing vehicle
2	20%	0.000108	0.28	Existing vehicle
1	20%	0.000125	0.16	Existing vehicle
1	20%	0.00014	0.18	Existing vehicle
2	20%	0.000162	0.42	Existing vehicle
3	20%	0.00017	0.66	Existing vehicle
1	20%	0.000188	0.24	Existing vehicle
1	20%	0.000192	0.25	Existing vehicle
9		0.000216	2.53	Existing vehicle
3	20%	0.00026	1.01	Existing vehicle
12	20%	0.0003	4.68	Existing vehicle
1	20%	0.000464	0.60	New vehicle
	Summary	**Metric Tons**	**11.25**	
		US Tons	**12.40**	

[1] Operating Emissions Factor: 20%. Default based on Local Government Operations Protocol. Version 1.1. May 2010. Table 7.2 page 78.

[2] R-134a has a GWP of 1,300. Source. LGOP. Version 1.1. Tables E1 and E2.
Other notes: Due to unavailable information, assume no vehicles were disposed of in 2005.
Assume they were in use every day of the year = 100%

Appendix B7
Miscellaneous Baseline Data

A Snapshot of El Cerrito	2005	2010	2020	2035
Population [1] [2] [3]	23,244	23,549	24,400	26,200
Households [2] [3]	10,340	10,420	10,820	11,540
People per Household	2.25	2.26	2.26	2.27
Businesses / Institutions [4]	522	502		
Number of Jobs [2]	5,750	5,720	6,810	8,840
"Service Population" [6]	28,994	29,269	31,210	35,040
Square Miles [5]	3.65	3.65	3.65	3.65

Costs of Commodities in 2005

Residential Electricity Rate (PG&E) per kWH	$	0.125
Commercial Electricity Rate (PG&E) per kWH	$	0.140
EBMUD Water Rates per gallon	$	0.004
Gasoline per gallon	$	2.560

Sources:

[1] State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2001-2010, Sacramento, California, May 2010.

[2] Projected statistics from Association of Bay Area Governments (ABAG), Projections and Priorities 2009: San Francisco Bay Population, Household, and Job Forecasts. Oakland. August 2009.

[3] 2010 statistics from U.S. Census Bureau, 2010 Census.

[4] City of El Cerrito, Business Licenses, estimate of number of non-home-based businesses with El Cerrito addresses, including government facilities, schools, and BART stations.

[5] El Cerrito General Plan, 1999.

[6] Total of number of residents and employees

[7] Statement of John Cook, Director, Petroleum Division, Energy Information Administration, U.S. Department of Energy before the Subcommittee on Energy and Resources Committee on Government Reform, U.S. House of Representatives

Appendix C
Municipal GHG Emissions Inventory, 2005

Sources of Emissions	Unit	Total Units	lb CO2e/ unit	Total Tons CO2e
Energy				
Building Electricity	kWh	973,528	0.489	238.03
Building Natural Gas	therm	86,841	11.7	508.02
Street Lights & Traffic Controls	kwh	865,367	0.489	211.58
Park Lighting	kwh	69,248	0.489	16.93
Irrigation	kwh	3,786	0.489	0.93
Water				
Water Consumed [1]	kWh/ Acre Ft	44,251	0.489	10.82
Water Treated [2]	kWh/ Acre Ft	13,389	0.489	3.27
Fugitive Refrigerant Emissions				
Building Frige & AC Units	metric tons	0.2243	varies	438.00
Vehicle AC	US tons	0.0095	1,300.0	12.40
Vehicle Fleet (Transportation)				
Gasoline	gallon	36,211	20.709	374.95
Diesel	gallon	14,343	20.968	150.38
Employee Commute (Transportation)				
Vehicle Miles Traveled	VMT	1,137,406	0.87	494.77
Waste	**tons**	**292**	**varies**	**157.00**
Total Annual Tons CO2e				**2,617.07**

[1] 36,972,003 gallons of water consumed for both irrigation and building accounts; 325,851 gallons per acre foot; 390 kwh per acre foot.

[2] 9,243,001 gallons of waste water for all municipal accounts; 325,851 gallons per acre foot; 472 kwh per acre foot.

Appendix D
Community and Municipal Emissions Forecast Methodology

The emissions forecast is essential for setting emissions reduction targets, since the amount of GHG emissions El Cerrito will ultimately pledge to reduce will be based on projected emissions. However, it is also important to emphasize that forecasts are subject to change with changing times. Therefore, the City should continue to update the forecast when conducting inventory updates in the future.

The forecast emissions for El Cerrito's community sector include two scenarios:

1. *Business-as-usual (BAU) scenario*
   In this scenario, emissions are projected in the absence of any policies or actions that would occur beyond the base year. Various indicators/proxies were identified for each end use category and utilized to estimate emissions projections in 2020 and 2035.

2. *California State reduction scenario*
   This scenario takes into account select state level strategies for reducing GHG emissions. Specifically, these include the following:
   - Renewable Portfolio Standard (33% by 2020)
   - Pavley Regulations (AB 1493)
   - Low Carbon Fuel Standard

It is important to emphasize that this is not an exhaustive list of state measures. However, based on California Air Resources Board's (ARB) *Climate Change Scoping Plan*, these measures contribute a significant portion of projected state emissions reductions in 2020. While other *Scoping Plan* measures are also relevant, because the details of the regulation have not yet been developed, assessing GHG impacts at the local level for these measures is fairly speculative at this time.

Forecast Scenario Assumptions

Community Emissions Business-as-Usual Scenario:

For the community sector, the following proxies were utilized for each end use category to estimate BAU emissions projections:

End Use	Proxy Used	Rational / Assumption	Proxy Value (Average Annual Growth Rate for 2005-2020)	Proxy Value (Average Annual Growth Rate for 2005-2035)	Proxy Source
Residential Electricity	Population growth	An increase in a community's population usually results in increased activities and energy use within the residential sector, which contributes to increased emissions.	0.28%	0.38%	ABAG 2009
Residential Natural Gas	Population growth	See rational for "Residential Electricity".	0.28%	0.38%	ABAG 2009
Commercial Electricity	Job growth	Emissions from the commercial sector can be correlated with job increase/decrease within the community. For example, growth of jobs in a community typically leads to increased energy use (both direct and indirect), which in turn results in additional emissions.	1.13%	1.44%	ABAG 2009
Direct Access Electricity	Job growth	For El Cerrito, the majority of direct access electricity use is from the commercial sector. See rational for "Commercial Electricity"	1.13%	1.44%	ABAG 2009
Commercial Natural Gas	Job growth	See rational for "Commercial Electricity".	1.13%	1.44%	ABAG 2009
Water Consumed	Average of population and job growths	Changes within in a community's residential and commercial sectors usually directly affect changes in water usage. Typically, population and job growth rates result in increased consumption of water.	0.71%	0.91%	ABAG 2009
Wastewater Treated	Average of population and job growths	The amount of wastewater that is generated and treated is proportionally related to changes within a community's residential and commercial sectors. Typically, population and job growth rates result in increased generation of wastewater.	0.71%	0.91%	ABAG 2009
Auto Traffic (all)	DVMT growth	Transportation emissions are assumed to be directly proportional to daily vehicle miles traveled by vehicles within a community.	1.08%	1.00%	2005 DVMT was derived from the 2005 California Public Road Data from the California Highway Performance Monitoring System. 2035 DVMT is from CalTrans 2005. 2020 DVMT was estimated using a linear extrapolation utilizing 2995 and 2035 DVMT figures.
Solid Waste to Landfill	Average of population and job growths	Emissions from waste are dependent on changes within both the residential and commercial sectors. Usually, population and job growth rates result in increased generation of solid waste.	0.71%	0.91%	ABAG 2009

Municipal Emissions Business-as-Usual Scenario:

For the municipal sector, the following proxies were utilized for each end use category to estimate BAU emissions projections:

End Use	Proxy Used	Rationale / Assumptions	Proxy Value *(Avg AGR for 2005-2020)*	Proxy Value *(Avg AGR for 2005-2035)*	Proxy Source
Buildings / Facilities	Average of population growth, job growth, and employee count	Population growth: The greater the number of residents, the higher the use of community facilities/buildings owned by the City (e.g. Senior Center, library, etc.) Job growth: Similar to above, the greater the number of people working in the community, the greater the use of municipal facilities/buildings. Employee count: The amount of energy that is used in municipal buildings, especially administrative buildings, is also dependent on the number of employees that work within these buildings.	0.6%	0.7%	Population growth: ABAG 2009 Job growth: ABAG 2009 Employee count: Maria Sanders, City of El Cerrito
Streetlights & Traffic Signals	Average of population growth and job growth	Population growth: Assume that the number of streetlights and traffic signals that will be used will depend partly on the residential population that the City will service. The greater the number of residents, the greater the need for use of streetlights and traffic signals. This will especially be true for installing new lights and signals for a growing residential population. Job growth: Similar to above, the greater the number of people working in the community, the greater the need for use of streetlights and traffic signals. This will especially be true for installing new lights and signals for a growing commercial population.	0.7%	0.9%	Population growth: ABAG 2009 Job growth: ABAG 2009
Water & Wastewater	Average of population growth and job growth	Population growth: Assume that the energy (electricity, specifically) used to treat and pump/distribute water/wastewater will depend on the residential population that the City will service. The greater the number of residents, the greater the need for use of streetlights and traffic signals. Job growth: Similar to above, the greater the number of people working in the community, the greater the need for use of electricity to provide water and wastewater services.	0.7%	0.9%	Population growth: ABAG 2009 Job growth: ABAG 2009

Vehicle Fleet	Average of population growth, job growth, and employee count	Population growth: The greater the number of residents, the higher the use of city fleet, in particular Fire and Police vehicles. Job growth: Similar to above, the greater the number of people working in the community, the greater the use of municipal vehicles, in particular Fire and Police vehicles. Employee count: The amount of gasoline/ diesel that is used by other municipal vehicles (e.g. administrative vehicles) will also depend on the number of employees that utilize them. Assume that the greater the number of employees, the greater the vehicles will by utilized.	0.6%	0.7%	Population growth: ABAG 2009 Job growth: ABAG 2009 Employee count: Maria Sanders, City of El Cerrito
Employee Commute	Employee count growth	Employee count: The amount of gasoline/ diesel that is used during commute will depend on the number of employees.	0.3%	0.4%	Employee count: Maria Sanders, City of El Cerrito
Solid Waste	Employee count growth	Employee count: The amount of solid waste that is generated from municipal operations will largely depend on the number of employees.	0.3%	0.4%	Employee count: Maria Sanders, City of El Cerrito
Refrigerants	Average of population growth, job growth, and employee count	Population growth: The greater the number of residents, the greater the use of equipment, vehicles, in particular, that will be needed to service them (e.g. A/C in municipal vehicle fleet). Job growth: Similar to above, the greater the number of people working in the community, the greater the use of equipment, vehicles, in particular, that will be needed to service them (e.g. A/C in municipal vehicle fleet). Employee count: The higher the number of city employees, the higher the use and purchase of equipment that contain refrigerants in city facilities (e.g. refrigerators, chillers, A/C in buildings and city fleet, etc.)	0.6%	0.7%	Population growth: ABAG 2009 Job growth: ABAG 2009 Employee count:

California State Reduction Scenario:

The following State initiatives have been taken into consideration in both the Community and the Municipal Inventory Forecasts:

1. Renewable Portfolio Standard (RPS)
   Established in 2002 in Senate Bill 1078, the RPS program requires electricity providers to increase the portion of energy that comes from renewable sources to 20% by 2010 and by 33% by 2020.

2. Pavley Regulations (AB 1493)
   AB 1493 requires a gradual reduction of GHG emissions from new passenger cars and light trucks (e.g.

sedans, trucks and SUVs) beginning in 2009. The *Scoping Plan* assigns an approximate 20% reduction in emissions from passenger vehicles associated with the implementation of AB 1493.

3. Low Carbon Fuel Standard
   In order to reduce the carbon intensity of transportation fuels, this regulation mandates fuel producers to produce a 10% reduction in carbon content of all passenger vehicle fuels sold in California by 2020. A 10 percent reduction in the intensity of transportation fuels is expected to equate to a reduction of 15 million MTCO2E in 2020.

In estimating the impact of these state initiatives on El Cerrito community's 2020 emissions projections, the percentage emissions reduction estimated by the State from its projected 2020 GHG emissions inventory were utilized. However, the 2020 emission reduction estimates from all state standards were discounted to account for the fact that they went into effect after 2005 (2009 and 2010, respectively) and has had slow implementation thereafter. These percentage reductions are listed in the table below.

California Initiative	% Reduction from 2020 GHG inventory for Entire State [1]	Discount Factor for slow implementation 2020
Renewable Portfolio Standard	21%	0.75
AB 1493 (Pavley) [3]	19.7%	0.6
Low Carbon Fuel Standard	7.2%	0.6

[1] Source: Bay Area Air Management District's CEQA Guidelines June 2010

In assessing the state initiatives on El Cerrito community's 2035 emissions projections, it was assumed that the emissions reductions from the three state measures from 2020-2035 (second 15 years) are similar to emissions reduction resulting from 2005-2020 (first 15 years). Additional assumptions include:

- RPS: Assume there is a gradual linear ramp from effective date (2003) up to reach 33% by 2030
- LCFS: Assume there is a gradual linear ramp up from effective date (2010) to reach 10% reduction in carbon intensity of fuels by 2020
- Pavley: Although signed into CA law in 2002, the U.S. EPA did not approve waiver to California until 2009. Assume effective year to be 2009 and there is a gradual linear implementation ramp up.

Community Emissions Growth 2020 and 2035 Forecast

Source of Emissions	Baseline Year	2020 Emissions Projections				2035 Emissions Projections			
		Business-As-Usual Emissions Projections		Emissions Projections from State Measures		Business-As-Usual Emissions Projections		Emissions Projections from State Measures	
	Total 2005 Emissions (tons CO2e)	Total 2020 Emissions (tons CO2e)	CO2e Growth from 2005 (tons CO2e)	Emissions Reductions from State Measures (tons CO2e)	Adjusted Total 2020 Emissions (tons CO2e)	Total 2035 Emissions (tons CO2e)	CO2e Growth from 2005 (tons CO2e)	Emissions Reductions from State Measures (tons CO2e)	Adjusted Total 2035 Emissions (tons CO2e)
Residential Electricity	12,114	12,632	518	1,990	10,642	13,564	1,450	2,848	10,715
Residential Natural Gas	29,506	30,767	1,261	0	30,767	33,036	3,531	0	33,036
Commercial Electricity	15,430	18,274	2,844	2,878	15,396	23,722	8,292	4,982	18,740
Direct Access Electricity	1,804	2,137	333	337	1,800	2,773	969	582	2,191
Commercial Natural Gas	5,152	6,102	950	0	6,102	7,921	2,769	0	7,921
Water Consumed	277	308	31	48	259	363	87	76	287
Wastewater Treated	234	261	27	42	219	307	73	64	243
Auto Traffic (local streets)	37,143	43,638	6,495	7,043	36,595	50,133	12,990	13,486	36,648
Auto Traffic (San Pablo Ave)	13,482	15,840	2,358	2,557	13,283	18,197	4,715	4,895	13,302
Auto Traffic (% of County Highways)	24,200	28,432	4,232	4,589	23,843	32,664	8,464	8,787	23,877
Solid Waste to Landfill	7,302	8,116	814	0	8,116	9,584	2,282	0	9,584
Municipal Refrigerants	450	490	40	0	490	560	110	0	560
TOTAL	**147,094**	**166,995**	**19,901**	**19,483**	**147,512**	**192,825**	**45,732**	**35,721**	**157,105**

BAU Indicators

VMT Compounded Annual Growth Rate

2005 DVMT (Contra Costa County)	23,326,718	
2020 DVMT (Contra Costa County)	27,405,869	Source: ABAG 2009
2035 DVMT (Contra Costa County)	31,485,020	2020 DVMT Extrapolated from 2005 and 2020 data.
Years Compounded (2005-2020)	15	
Years Compounded (2005-2035)	30	
Cumulative Avg Growth Rate (CAGR) (%) 2005-2020:	1.08%	
CAGR (%) 2005-2035:	1.00%	

Population Growth Projections

2005 Population	23,400	
2020 Population	24,400	
2035 Population	26,200	
Years Compounded (2005-2020)	15	Source: ABAG 2009
Years Compounded (2005-2035)	30	
CAGR (%) 2005-2020:	0.28%	
CAGR (%) 2005-2035:	0.38%	

Job Growth Projections

2005 # of Jobs	5,750	
2020 # of Jobs	6,810	
2035 # of Jobs	8,840	
Years Compounded (2005-2020)	15	Source: ABAG 2009
Years Compounded (2005-2035)	30	
CAGR (%) 2005-2020:	1.13%	
CAGR (%) 2005-2035:	1.44%	

Appendix F
Municipal Emissions Forecast

End Use	Baseline Year	2020 Emissions Projections				2035 Emissions Projections [2]			
		Business-As-Usual Emissions Projections		Emissions Projections with Select State Measures		Business-As-Usual Emissions Projections		Emissions Projections with Select State Measures [1]	
	Total 2005 Tons CO2e	Total 2020 Tons CO2e	Tons CO2e Growth from 2005	Tons Reduced from State Measures	Adjusted Total 2020 Tons CO2e	Total 2035 Tons CO2e	Tons CO2e Growth from 2005	Tons Reduced from State Measures	Adjusted Total 2035 Tons CO2e
Buildings/ Facilities	746	812	66	171	641	929	183	195	734
Streetlights & Traffic Lights	229	255	26	54	201	301	72	63	238
Water & Wastewater	14	16	2	3	12	18	4	4	15
Vehicle Fleet	525	572	46	75	497	654	129	99	556
Employee Commute	495	516	22	68	449	554	60	84	471
Solid Waste	157	164	7	0	164	176	19	0	176
Refrigerants	450	490	40	0	490	450	0	0	450
TOTAL	2,617	2,825	208	370	2,455	3,084	467	444	2,639

I. BAU Indicators

Population Growth Projection

2005 Population	23,400
2020 Population	24,400
2035 Population	26,200
Years Compounded (2005-2020)	15
Years Compounded (2005-2035)	30
CAGR (%) 2005-2020:	0.28%
CAGR (%) 2005-2035:	0.38%

Source: ABAG 2009

Employee Number Projection

2005 # of employees (full-time equivalent)	200
2020 # of employees (full-time equivalent)	209
2035 # of Jobs	224
Years Compounded (2005-2020)	15
Years Compounded (2005-2035)	30
CAGR (%) 2005-2020:	0.29%
CAGR (%) 2005-2035:	0.38%

Source: Maria Sanders, City of El Cerrito.

Took the number of FTE and divided that by the 2005 number of FTE and then applied that multiplier to the future years.

2005 = 200 FTE employees for 23,400 residents = 1 employee per 117 residents
2020 = 24,400 residents divided by 117 = 209 employees
2035 = 26,200 / 117 = 224 employees

Job Growth Projections

2005 # of Jobs	5,750
2020 # of Jobs	6,810
2035 # of Jobs	8,840
Years Compounded (2005-2020)	15
Years Compounded (2005-2035)	30
CAGR (%) 2005-2020:	1.13%
CAGR (%) 2005-2035:	1.44%

Source: ABAG 2009

Appendix G

Summary of Goals, Objectives and Strategies, Consistency with El Cerrito General Plan

Sustainable Community (SC):

Transportation, Land Use and Community Development

Goal #	Goal and Objectives	Annual Tons CO2e Reduced	
	Sustainable Community (SC)	*by 2020*	*by 2035*
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	10,027	20,378
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	**Diversity 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		
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	242	443
SC-5.2	Develop education and outreach campaigns and events to promote walking, biking and taking transit		
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***

Sustainable Community Goal #1:

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

SC-1.1: Update the El Cerrito General Plan and other applicable plans and ordinances to reflect greater residential and commercial density along major transit corridors and to encourage Transit Oriented Development (TOD) near both BART stations.	Existing Policy, Program, Project
Strategies include:	
• Utilize the results of the *San Pablo Avenue Specific Plan* and TOD studies to inform the update to the *General Plan*.	Yes
• Continue to participate in the development of the Bay Area Sustainable Community Strategy's (SCS) Plan Bay Area process.	Yes
• 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.	Yes
• Continue to pursue developments of TOD in both the Del Norte Station area and El Cerrito Plaza areas.	Yes
• 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.	Yes
Consistency with General Plan Policies: LU5.1 Higher density and mixed uses at BART Station Areas; T1.7 Regional coordination; T2.1 Land use patterns	

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.	Existing Policy, Program, Project
Strategies include:	
• Strive to meet the City's Regional Housing Needs Allocation for 2014 and 2022.	Yes
• 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.	No
• Develop strategies to streamline planning entitlement processes in targeted PDA areas.	No
• Revise development standards along major transportation corridors to encourage higher density development.	No
• Prioritize potential development sites along the Avenue and work with owners to redevelop their parcels.	Yes
• Assist and collaborate with non-profit, private and public entities to maximize opportunities to develop affordable housing.	Yes
Consistency with General Plan Policies: LU4.5 Mixed uses; T2.1 Land use patterns; T2.2 Project design	

SC-1.3: Develop and implement a parking demand management strategy in TOD areas that both responds to market conditions and encourages alternatives to driving and higher density development along transit-oriented corridors.	Existing Policy, Program, Project
Strategies include:	
• Consider instituting parking pricing strategies around the BART stations, particularly the Del Norte Station where a majority of commuters drive alone to the Station.	No
• Allow building owners to unbundle parking to be rented separately from the building space.	No
• Consider allowing on-street parking to meet off-street parking requirements.	No
• Consider instituting flexible parking requirements for transit-oriented development that provides services, infrastructure and/or mitigations to reduce parking demand.	No
Consistency with General Plan Policies: LU4.5 Mixed uses; T2.1 Land use patterns; T2.2 Project design	

Sustainable Community Goal #2:

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

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.	Existing Policy, Program, Project
Strategies include:	
• 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.	Yes
• Create a reason for people to shop in El Cerrito by developing a unique El Cerrito experience that builds upon local assets.	Yes
• Link the City's main commercial nodes through a network of open space, public art, and other cultural, historic amenities that encourage people to linger longer.	
• Develop and implement design guidelines that promote a pedestrian-friendly commercial environment, such as allowing and encouraging outdoor seating and activities that enliven the street and prohibiting design that is counter to this goal in pedestrian and transit oriented nodes.	Yes
• Pursue innovative street parking solutions that support pedestrian access.	No
Consistency with General Plan Policies: LU3.2 Midtown development; LU4.3 Attractive accessible street frontage; CD1.2 Design concept; CD1.6 Entrance to City; CD 3.11 Streetscape design; CD 4.2 Building articulation; CD6 Affordable commerce	

SC-2.2: Enhance neighborhood-serving commercial nodes and encourage the development of commercial spaces in mixed-use areas to better serve the daily needs of residents, businesses, and employees.	Existing Policy, Program, Project
Strategies include:	
• Identify nodes and properties in commercial corridors that are economically feasible for commercial and/or mixed-use development.	Yes
• Develop conceptual area plans for communicating the City's vision, goals and expectations for these areas to the development community.	No
• Develop study areas to investigate strategies to more fully realize the potential for neighborhood-scale commercial nodes, such as the upper Fairmount and Stockton Areas, as part of the next *General Plan Update* process.	No
Consistency with General Plan Policies: LU3.1 Easy access to businesses; LU4.2 Availability of goods and services; LU4.4 Availability of amenities; LU5.4 Neighborhood commercial centers; CD6 Affordable commerce	

SC-2.3: Attract "green economy" businesses to El Cerrito and encourage existing businesses to adopt environmentally friendly practices	Existing Policy, Program, Project
Strategies include:	
• Participate in the regional Green Business Program and support projects/policies to promote resource efficiency, waste reduction, and pollution prevention.	Yes
• Develop a business attraction strategy that investigates the types of "green economy" businesses that would be appropriate in El Cerrito.	No
• Support the development of local food economy in El Cerrito by:	
• Recruiting local food enterprises to locate in El Cerrito; and	No
• Expanding the frequency and enhancing the quality of local farmers' markets.	
Consistency with General Plan Policies: LU6.3 Environmental businesses	

Sustainable Community Goal #3:
Continue to invest in infrastructure that invites people to walk, bike, and take transit more in El Cerrito.

SC-3.1: Create design standards for developments in commercial areas that requires pedestrian improvements.	Existing Policy, Program, Project
Strategies include:	
• Develop design standards to improve building facades so that they are pedestrian-scaled with windows and entries along the pedestrian frontage.	Yes
• 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.	No
Consistency with General Plan Policies: CD2.1 Street frontages; LU4.3 Attractive accessible street frontages; T2.1 Land use patterns; T2.2 Project design; CD 3.10 Greenway spur trails	

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.	Existing Policy, Program, Project
Strategies include:	
• 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.	Yes
• Participate in regional efforts to create a way-finding signage program connecting neighborhoods, the Ohlone Greenway, and appropriate pedestrian trails to major transportation hubs.	Yes
• Develop a wayfinding signage program to promote use of pedestrian trails and stairs, including as a way to improve pedestrian access to schools and transit.	No
Consistency with General Plan Policies: CD2.1 Street frontages; CD2.2 San Pablo Ave; CD2.3 Streetscape improvements; CD2.4 Multi-nodal transportation networks; CD2.5 Signs; CD 3.11 Streetscape design	

SC-3.3: Continue implementation of the Ohlone Greenway Master Plan and create greater connections between the Greenway, San Pablo Ave and other regional trail networks.	Existing Policy, Program, Project
Strategies include:	
• Secure funding to design and develop key "Activity Areas" as defined in the Ohlone Greenway Master Plan.	Yes
• Encourage the creation of pedestrian right-of-ways and bicycle facilities between San Pablo Avenue and the Greenway to increase interconnectivity, including redesign of parcels as they redevelop and partnerships or incentives to existing businesses to incorporate such access.	No
• Develop a comprehensive way-finding information program to inform Ohlone Greenway and other pedestrian trail users about connections to San Pablo Avenue and surrounding destinations.	Yes
Consistency with General Plan Policies: LU5.6 Development along the Ohlone Greenway; CD2.4 Multi-nodal transportation network; CD2.5 Signs; CD3.9 Ohlone Greenway; CD3.10 Greenway spur trails	

SC-3.4: Expand and improve the City's transit, bicycle, pedestrian, and zero-emissions vehicle infrastructure.	Existing Policy, Program, Project
Strategies include:	
• Update the *Bicycle and Pedestrian Circulation Plan* to identify new design standards and traffic control methods and integrate Climate Action and Complete Streets policies.	Yes
• Develop the *San Pablo Avenue Complete Street Plan* and incorporate plan elements into the *General Plan Update*, including: Goals for future mode share and level of investment needed to achieve these goals; Performance and level-of-service standards for all modes of transportation' New street and intersection design standards that specifically consider bicycle, pedestrian, transit, and traffic calming measures.	Yes

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

Consistency with General Plan Policies: LU5.5 Pedestrian and bicycle access; LU6.2 Circulation alternatives; CD2.4 Multi-nodal transportation network; CD2.8 City Sidewalk and pedestrian walkways; T1.3 Bicycle circulation; T1.4 Pedestrian circulation

SC-3.5: Collaborate with WCCTAC, BART, AC Transit, WestCAT, major employers, and schools to support improvements to transit facilities in the City El Cerrito.	Existing Policy, Program, Project
Strategies include:	
• Seek grant opportunities to implement improvements identified in the West County Transportation Enhancement and Transit Wayfinding Projects and to fun pilot projects that increase access to transit.	Yes
• Work with WCCTAC, 511 Contra Costa, employers, shopping centes, and schools in El Cerrito and nearby communities to develop commuter trip reduction programs to decrease single-occupant vehicle use in El Cerrito's transit, commercial, and educational centers.	No
• 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.	
• 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.	

Consistency with General Plan Policies: LU5.5 Pedestrian and bicycle access; LU6.2 Circulation alternatives; CD2.4 Multi-nodal transportation network; CD2.8 City Sidewalk and pedestrian walkways; T1.3 Bicycle circulation; T1.4 Pedestrian circulation

Sustainable Communities 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.

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.	Existing Policy, Program, Project
Aspects of the Plan to include:	
• A needs assessment of green and open space in El Cerrito	Yes
• Updated Master Street Tree List, City planting palettes, and a Park Planting Maintenance and Resource Conservation Guidelines	Yes
• Policy recommendations	Yes
• List of potential urban greening and open space projects	Yes

Consistency with General Plan Policies: T3.2 Streets as public spaces; PR1.2 Regular park maintenance; PR1.4 Minimum parkland; PR1.6 Private involvement; PR1.17 Native plant buffer zones; PR2.1 Open space purpose; PR2.3 Open space plan map; PR2.5 Open space strategy; PR2.5 Open space use; PR2.6 Existing open space preservation; R1.1 Habitat protection; R1.2 Rare and endangered species; R1.3 Potential environmental impacts; R1.7 Creek protection; R1.8 Creek improvements; CD3.5 Creek preservation; CD3.8 Public spaces

SC-4.2: Promote Bay-Friendly tree planting, landscaping, and green and open space that is attractive and helps restore natural processes, sequester carbon, clean storm water clean, conserve resources, and connect citizens to El Cerrito's natural environment.	Existing Policy, Program, Project
Strategies include:	
• 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.	No
• Develop a policy for new City maintained landscapes to follow the principles of Bay Friendly design and maintenance.	No
• To enforce 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 on both public and private land.	No
• Encourage and support the development of community gardens in order to increase access to healthy, affordable, local foods.	Yes
• Seek funding to increase the urban forest through a variety of programs, including a street tree planting and stewardship program.	

Consistency with General Plan Policies: LU6.1 Natural features; CD3.5 Creek preservation; CD3.8 Public Spaces; CD3.12 Landscape species; PR1.17 Native plant buffer zones; PR3.2 Open space improvements; PR 3.3 Creek restoration; PS 4.2 Creek restoration; R1.6 Runoff water quality; R1.11 Native plant communities

Sustainable Communities Goal #5:

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

SC-5.1: Encourage residents and businesses to use trip reduction programs.	Existing Policy, Program, Project
Strategies include:	
• Work with WCCTAC, 511 Contra Costa, and other transportation programs to promote their programs to El Cerrito's business and residential communities.	Yes
• Create a welcome packet for new businesses and residents in El Cerrito that provides information on trip reduction options, as well as pedestrian and bicycling amenities in El Cerrito.	No
• 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.	Yes

Consistency with General Plan Policies: LU6.2 Circulation alternatives; R1.4 Air quality

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.	Existing Policy, Program, Project
Strategies include:	
• Enhance and expand the City's "Street Play" days, such as the Alberrito Street Play Day, to include more events and other neighborhoods.	Yes
• 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.	Yes

Consistency with General Plan Policies: LU6.2 Circulation alternatives

Energy and Water Use

Goal #	Goals and Objectives	Annual Tons CO2e Reduced	
	Energy and Water (EW) Use	*by 2020*	*by 2035*
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**

Energy and Water Goal #1:

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

EW-1.1: Pursue opportunities to actively promote energy and water efficiency education and incentive programs in El Cerrito.	Existing Policy, Program, Project
Strategies include:	
• Structure building permit fees, processes, and requirements to incentivize greater adoption of energy efficiency, clean energy, and water conservation improvements.	No
• Develop partnerships with the following entities to bring residential energy and water efficiency technical assistance and incentives to El Cerrito: • PG&E, EBMUD, ABAG, Contra Costa County Weatherization and Green Business Program, East Bay Energy Watch Program	Yes
• Create a low-cost marketing strategy to encourage residents to participate in energy and water efficiency programs.	No
• Work with policy makers at the regional, county, state and federal levels to ensure that small local governments have access to dedicated sources of energy efficiency funding.	Yes
• Apply for appropriate grants for marketing, outreach and incentive programs dedicated to energy and water efficiency in El Cerrito.	Yes
Consistency with General Plan Policies: CD3.12 Landscape species; CD4.5 Energy and resources	

EW-1.2: Promote financing strategies that will encourage property owners to make energy efficiency and other clean energy investments in their properties.	Existing Policy, Program, Project
Strategies include:	
• Pursue commercial PACE financing in conjunction with other public entities.	No
• Adopt residential PACE financing if it becomes available in California.	No
• Promote and help market on-bill financing by the utilities to sectors where this service is available.	No
Consistency with General Plan Policies: CD4.5 Energy and resources; R1.5 Clean energy sources	

EW-1.3: Utilize existing points of interaction with the city to encourage and/or require cost-effective energy and water efficiency improvements.	Existing Policy, Program, Project
Strategies include:	
• Structure building permit fees and requirements to incentivize greater adoption of energy and water efficiency improvements.	No
• Encourage or require a home energy performance report at the time-of-sale in order to promote a better understanding of factors affecting home comfort, indoor air quality, and utility costs.	No

• Encourage or require improvements to a building's energy or water performance during major renovation, sale, or certain types of improvements.	No
• Encourage compliance with AB 1103, which requires disclosure of an EPA Energy Star energy performance rating at time of sale or lease of a commercial building.	No

Consistency with General Plan Policies: CD3.12 Landscape species; CD4.5 Energy and resources

Energy/Water Goal #2:

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

EW-2.1: Encourage new construction to be built to green building, energy, and/or water performance standards such a LEED, Green Points, and Energy Star.	Existing Policy, Program, Project
Strategies include:	
• 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.	No
• Simplify project review and permit approval processes to encourage the use of net-zero energy design and innovative water conservation strategies such as rain water catchment and gray water systems.	No
• Encourage access to education and technical assistance through energy and water utility programs such as Savings by Design, Net-Zero Energy Buildings, and Water Smart.	No
• Link participants to incentives, such as recognition and rebate programs.	No
• Assess feasibility of adopting higher energy efficiency and/or green building requirements, as recommended by the California Green Building Code.	No

Consistency with General Plan Policies: LU6.4 Water conservation in new development; CD3.12 Landscape species; CD4.5 Energy and resources; CD4.6 Sustainable building materials; R1.5 Clean energy sources

Energy/Water Goal #3:

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

EW-3.1: Develop and implement a strategy to facilitate greater adoption of solar and renewable energy use in the residential and commercial sectors.	Existing Policy, Program, Project
Strategies include:	
• Streamline, to the extent possible, the permit process for installing solar photovoltaic and solar thermal systems.	No
• Continue participation in the East Bay Green Corridor's regional solar permitting streamlining efforts.	Yes

• Provide educational workshops for residents and businesses on assessing the feasibility of using renewable energy to offset their grid-tied electricity use.	No
• 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 a models developed by the cities of San Francisco and San Jose.	No
• Pursue funding resources to develop and implement an El Cerrito Go Solar program containing the elements listed above.	No
Consistency with General Plan Policies: R1.5 Clean energy sources	

EW-3.2: Participate in regional efforts to provide a higher percentage of electricity from renewable sources than otherwise provided .	Existing Policy, Program, Project
Strategies include:	
• Explore opportunities for instituting or joining a regional Community Choice Aggregation (CCA) effort .	No
Consistency with General Plan Policies: R1.5 Clean energy sources	

Energy and Water Goal #4:
Partner with local, regional, and state agencies to encourage water conservation and efficiency.

EW-4.1: Pursue opportunities to actively promote water conservation and efficiency programs in commercial and residential buildings and landscapes.	Existing Policy, Program, Project
Strategies include:	
• Providing educational workshops for city staff, residents and businesses on Bay Friendly landscapes and maintenance practices.	No
• Enforce the State mandated Water Efficiency Landscape Ordinance, in which new and rehabilitated landscapes with at least 2500 sq. ft. of landscape area must meet an annual water budget.	Yes
Consistency with General Plan Policies: CD3.12 Landscape species	

EW-4.2: Encourage the adoption of rainwater catchment and gray water irrigation systems in El Cerrito, consistent with California State code, to offset use of potable use.	Existing Policy, Program, Project
Strategies include:	
• Streamlining to the extent possible the permit process for installing gray water systems and rainwater catchment systems.	No
• Structure building permit fees and requirements to incentivize greater adoption of water efficiency improvements.	No
• Providing educational workshops for residents and businesses on installing and using rainwater catchment and gray water systems to reduce use of potable water.	No

- Seek grant opportunities to provide incentives for water conservation strategies.
- Work with EBMUD to bring recycled water to El Cerrito.

Consistency with General Plan Policies: R1.6 Runoff water quality

Waste Reduction

Goal #	Goals and Objectives	Annual Tons CO2e Reduced		
	Energy and Water Use	*existing measures*	*by 2020*	*by 2035*
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**

Waste Goal #1:

Reduce waste going to the landfill to only 4,000 tons by 2020 (or 65% of land-filled waste in 2011) and to 2,000 tons by 2035.

W-1.1: Maximize participation in waste reduction curbside services in the residential, commercial, multi-family, and educational sectors.	Existing Policy, Program, Project
Strategies include:	
• Conduct Waste Characterization Profiles for each waste generation sector (residential, commercial, and multi-family, and educational) in order to determine where greater waste diversion, reduction and outreach is needed.	No
• Provide specialized customer service and collection approaches (e.g., more frequent collections, specialized containers, site consultations) that are customized to meet the special needs and limitations of each sector.	No
• Expand outreach and education on waste diversion and reduction programs available to El Cerrito's residents, businesses, multi-family dwelling and schools, via targeted outreach/education programs including mailing inserts, site visits, and bill insert newsletters and other outreach and customer service avenues.	Yes

• Adopt a mandatory recycling ordinance for all El Cerrito businesses.	No
• Expand the types of materials collected curbside as new markets develop.	Yes

Consistency with General Plan Policies: PS5.1 Monitoring recycling needs

W-1.2: Expand one-stop waste diversion options at the Recycling + Environmental Resource Center.	Existing Policy, Program, Project
Strategies include:	
• Continue to expand drop-off options at the Center.	Yes
• Increase educational outreach to educate visitors on the "4 R's" (Reduce, Reuse, Recycle, Rot) of waste reduction.	Yes

Consistency with General Plan Policies: PS5.1 Monitoring recycling needs

W-1.3: Reduce landfill waste from Construction and Demolition.	Existing Policy, Program, Project
Strategies include:	
• Conduct Waste Characterization Profiles for El Cerrito construction and demolition projects.	No
• Negotiate terms with waste haulers and processors to collect, process, and divert the maximum potential construction and demolition waste.	No
• 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 recycling more than 50% of their waste.	No
• Conduct ongoing outreach to the El Cerrito and contractor communities regarding the details of the new Ordinance and compliance options.	No

Consistency with General Plan Policies: PS5.1 Monitoring recycling needs

W-1.4: Develop and implement a Zero-Waste 2035 Waste Reduction Plan, wherein reducing the amount of waste produced is an ever-present goal.	Existing Policy, Program, Project
Strategies include:	
• Analyze El Cerrito's waste streams (as mentioned in W-1.1 and W-1.3, above).	No
• Identify materials to be targeted by current and future programs.	No

• Investigate potential waste reduction strategies, such as:
  • New or modified diversion (reuse, recycling, of composting) programs
  • Bans on problematic materials (such as single use plastic bags and Styrofoam take-out containers)
  • "Return for deposit" and "producer take-back" requirements.
	No

• Recommend types of "zero-waste" programs best instituted at the local level, as opposed to the state, regional, or national level.	No

- Encourage producers, consumers, and recyclers to focus operations on the concept of product stewardship to reduce environmental and human health impacts. No

Consistency with General Plan Policies: PS5.1 Monitoring recycling needs; R1.6 Runoff water quality

Municipal Climate Action Strategies

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**

Municipal Goal #1:

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

M-1.1: Reduce annual vehicle miles traveled (VMT) associated with employee commutes and work in the field.	Existing Policy, Program, Project
Strategies include:	
• 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.	No
• 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.	Yes
• Work with 511 Contra Costa to offer employee incentives to use alternative transportation.	Yes
• 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.	Yes
• Identify and mitigate barriers to employees commuting by transit to work.	No

M-1.2: Green the municipal fleet by improving vehicle fuel efficiency and switching to cleaner fuel vehicles.	Existing Policy, Program, Project
Strategies include:	
• 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.	No
• Participate in regional EV readiness activities, as appropriate.	Yes
• Continue to use the Police Bike Patrol to increase criminal apprehension and police contact with the community, as well as promoting employee physical fitness and lower fuel costs.	Yes
• Create a municipal bicycle fleet for use by City staff and train staff in bicycle safety. Consider compatibility of City bicycle fleet with regional bike-sharing facilities being installed throughout the BART system.	No

M-1.3: Reduce car travel associated with large City-sponsored events, such as the July 4th Festival.	Existing Policy, Program, Project
Strategies include:	
• Provide and expand free or low-cost shuttles and/or bike-valet parking for event participants.	Yes
• Promote walking and biking to these events through marketing and making links to public health campaigns such as Healthy Eating Active Living.	

Municipal Goal #2:

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

M-2.1: Reduce overall energy and water use in municipal operations.	Existing Policy, Program, Project
Strategies include:	
• Develop a municipal energy and water efficiency plan, which creates a baseline for the City's energy and water use, identifies energy-and water inefficient facilities, and develops a rolling 3 year investment strategy for retrofitting or upgrading equipment at these facilities.	Yes
• Regularly assess and maintain City facilities to ensure that City buildings and irrigation operate at an optimal efficiencies.	No
• 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 (instituted in 2009).	Yes
• 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.	No
• Use an energy and water bill monitoring database that helps monitor energy and water use and alerts users to anomalies in energy and water use.	Yes
• Develop outreach materials and training to encourage operational and behavior changes to minimize wasteful uses of energy and water.	No
• Pursue funding and technical resources to implement energy and water efficiency projects.	Yes

M-2.2: To lead by example, develop and implement a municipal solar energy strategy to locate solar energy projects at city facilities.	Existing Policy, Program, Project
Strategies include:	
• Assess all municipal buildings for the technical and economic feasibility of using solar photovoltaic and thermal systems to offset municipal energy use.	Yes
• Investigate procurement methods, incentives and financing strategies to lower up-front and long-term costs to procuring solar energy.	Yes
• Monitor the solar market, incentives, and financing opportunities to procure cost-effective renewable energy for municipal facilities where feasible.	Yes

M-2.3: Use Bay-Friendly and Water Smart irrigation practices and technology to maintain the City's landscaped facilities, parks, medians, and streetscapes and to become more resilient to water shortages.	Existing Policy, Program, Project
Strategies include:	

• Procure and install weather-station enabled, centrally controlled irrigation systems for all irrigated city landscapes.	No
• Use Bay-Friendly landscaping techniques that use less water and energy and produce less waste.	Yes
• Monitor all water accounts for leaks and excessive use on a regular basis.	Yes
• Identify preventative maintenance measures to pro actively address water leakage in City facilities.	
• Where feasible, install gray water and/or rainwater catchment technology in new construction and major retrofit projects.	

M-2.4: Convert City landscaped areas to drought-tolerant Bay Friendly landscapes, wherever possible.	Existing Policy, Program, Project
Strategies include:	
• Adopt a City policy that requires the specification of Bay Friendly, drought-tolerant landscapes in any City project or private project receiving City funds that has landscaped areas as a project element.	No
• Where feasible and as funding allows, replace non-active turf areas that are maintained by the City with Bay-Friendly landscaping.	Yes

Municipal Goal #3:

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

M-3.1: Update the City's Environmentally Preferable Procurement policy and develop tools to better facilitate the procurement of resource-efficient and climate friendly equipment and products.	Existing Policy, Program, Project
Strategies include:	
Adopt updated policy and include protocols, tools, and trainings to aid staff in specifying and purchasing such items as	No
• 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	
• Non-toxic janitorial and grounds maintenance products	

M-3.2: Develop a Green Building Ordinance that stipulates a minimum level of environmental and energy performance for municipal and other City-funded construction projects.	Existing Policy, Program, Project
Strategies include:	
• Require newly constructed or renovated city buildings to achieve a minimum Silver certification under LEED.	No
• To lead by example, require newly constructed city buildings to strive towards zero-net-energy design.	No
• Require private projects receiving City funds to achieve a minimum rating under LEED.	No
• Develop green construction/ infrastructure standards for other municipal projects, such as minor building renovations, playgrounds, parking lots, and streetscape improvements.	No

M-3.3: Continue to maintain an active pavement preservation and pavement management program to both improve vehicle fuel economy of road users and to avoid major reconstruction of roads due to deferred maintenance.	Existing Policy, Program, Project
Strategies include:	
• Continue to maintain El Cerrito's roads at a Pavement Condition Index (PCI) average of 85 out of 100, as made possible by the El Cerrito Pothole Repair, Local Street Improvement and Maintenance Measure (Measure A), which was passed by local voters in 2008.	Yes
• Investigate other cost-effective technologies, materials, and practices that further decrease the environmental impact of road repair and maintenance.	

M-3.4: Develop a policy to reduce refrigerant emissions into the atmosphere to the lowest achievable and practical levels.	Existing Policy, Program, Project
Strategies include:	
• 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.	No
• Adopt an equipment maintenance standard to use best practices for refrigerant charge, leak detection, and refrigerant disposal.	No
• Retire older equipment using refrigerants with a high global warming potential, such as R-408A.	No

Municipal Goal #4:
Make City operations and facilities a model of "reduce, reuse, recycle," and compost.

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.	Existing Policy, Program, Project
Strategies include:	
• Make recycling, food waste compost, and universal waste collection services available at all city facilities.	Yes
• Educate city employees on how to use the services.	Yes
• 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	No

M-4.2: As part of the update to 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.	Existing Policy, Program, Project
Strategies include, but are not limited to:	
• Purchase recycled paint from paint manufacturers that have shown a commitment to formulating and marketing high quality recycled paint.	No
• Use recycled materials in capital improvement projects, such as in building construction and renovations, street paving and concrete treatments.	No
• Procuring products from companies that minimize packaging waste and offer take-back programs.	No

M-4.3: Institute waste reduction policies and projects.	Existing Policy, Program, Project
Strategies include, but are not limited to:	

• Work with City staff in all departments to determine strategies to eliminate avoidable, unnecessary waste of materials, for example:
  • Enabling all computers and printers to use double-sided printing as their default setting
  • Upgrading permit processes to be on-line and/or paperless
	No

Appendix H
Reductions in CO2e from Sustainable Community Goals

Sustainable Communities Goals #1, #2, #3, #4: Encourage more compact, higher density infill development; greater economic vitality; ped-bike- transit investment; and urban greening along transportation corridors to reduce vehicle miles traveled in El Cerrito and beyond.

Program Assumptions

	2020	2035
% reduction in VMT [1]	12.5%	25.0%
% VMT make up of light-duty vehicles and motocycles (versus medium/heavy duty vehicles) [2]	87%	87%

[1] Source: National Research Council's review of urban design studies indicates that higher residential density across a metropolitian area can lower household VMT by about 5 to 12%, and perhaps as much as 25%, if coupled with higher employement concentrations, significant public transportation improvements, mixed uses, improved pedestrian accessability, good design, strategic parking demand management, and other transportation demand management measures. Source: 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.

Assume 12.5% VMT reduction from 2020 Business-As- Usual (BAU) VMT in El Cerrito by 2020 and 25% reduction from 2035 Business-As-Usual (BAU) VMT in El Cerrito by 2035 as a result of the implementation of this comprehensive menu of transit-oriented development.

[2] Since this measure relates mainly to residents and people who work in El Cerrito, assume VMT reduction from these measures is mainly from light-duty vehicles and motocycles only (gasoline use only versus diesel use). These vehicles make up 87% of the VMT in the community. % estimation is based on EMFAC VMT count for light-duty autos (PC), light-duty trucks (T1), and light-duty trucks (T2), and motocycles in 2020 and 2035 for Contra Costa County. *California Air Resources Board. EMFAC2007, Version 2.30.*

VMT & Fuel Use Impact

	2020	2035
VMT reduced	14,379,266	32,353,901
Average passenger fuel economy-Gasoline [1] [2]	17.26	17.26
Gasoline use saved (gallons)	833,098	1,874,502

[1] Fuel economy source: Since this measure relates mainly to light-duty vehicles, assume VMT reduction from this measure is mainly from light-duty vehicles and motocycles only (gasoline use only versus diesel use).

[2] Fuel economy source: Use 2005 average fuel efficiency because reductions from increases in fuel efficiency for 2020 and 2035 already counted in reductions from State Pavely standards. U.S. Department of Commerce. Institute for 21st Century Energy. "Metric of the Month: Motor Vehicle Average Miles per Gallon." November 2011.

GHG Emissions Impact

	2020	2035
GHG emissions reduction (tons)	8,086	18,194

Sustainable Communities Goal #3, Objective #4:
Expand and improve the City's transit, bicycle and pedestrian infrastructure.

This worksheet quantifies VMT reductions pertaining to updating and implementing the Bicycle and Pedestrian Circulation Plan. CO2e reductions are not counted previously under other reductions associated with Goal SC-3.

Program Assumptions [1]

	2020	2035
% reduction in commute VMT [2]	3.0%	3.0%
% VMT make up of light-duty vehicles and motocycles (versus medium/heavy duty vehicles) [3]	87%	87%

[1] Source: As a rule of thumb, the Center for Clean Air Policy (CCAP) Guidebook attributes a 1% to 5% reduction associated with comprehensive bicycle programs. CCAP includes the following in a comprehensive bicycle program, including, but not limited to:
* bicycle promotion programs
* bicycle lanes and bridgets
* effective bicycle signage and traffic signal improvements
* connectivity between transit and bicycling
* bicycle parking and storage
* facilities for cyclists (i.e. shower and lockers)
* bike share options
* mapping and educational materials
* bike rentals

[2] Assume middle range of CCAP reduction estimates: a constant 3% VMT reduction from 2020 and 2035 Business-As-Usual (BAU) VMT in El Cerrito by 2020 and 2035 respectively.

[3] Since this measure relates mainly to residents and people who work in El Cerrito, assume VMT reduction from this measure is mainly from light-duty vehicles and motocycles only (gasoline use only versus diesel use). These vehicles make up 87% of the VMT in the community, based on Contra Costa County numbers. % estimation is based on EMFAC VMT count for light-duty autos (PC), light-duty trucks (T1), and light-duty trucks (T2). and motocycles in 2020 and 2035 for Contra Costa County.

VMT & Fuel Use Impact

	2020	2035
VMT reduced	3,451,024	3,882,468
Gasoline use saved (gallons) (for light-duty vehicles and motocycles only)	199,961	224,960
Average passenger fuel economy-Gasoline [1]	17.26	17.26

[1] Fuel economy source: Use 2005 average fuel efficiency because reductions from increases in fuel efficiency for 2020 and 2035 already counted in reductions from State Pavely standards. U.S. Department of Commerce. Institute for 21st Century Energy. "Metric of the Month: Motor Vehicle Average Miles per Gallon." November 2011.

GHG Emissions Impact

	2020	2035
GHG emissions reduction (tons)	1,941	2,183

Sustainable Communities Goal #5, Objective #1:
Encourage businesses and residents to adopt trip reduction programs

Program Assumptions [1]

	2020	2035
Estimated number of employed residents in community [6]	11,584	11,670
% of residents using public transit [5]	20.5%	20.5%
% of workers in El Cerrito eligible [2]	15%	30%
% reduction in commute VMT [3]	5.2%	5.2%
Estimated average round-trip commute (miles)	19.0	19.0

[1] Source: California Air Pollution Control Officers Association. QUANTIFYING GREENHOUSE GAS MITIGATION MEASURES. August, 2010. Pg 218 "The project will implement a voluntary Commute Trip Reduction (CTR) program with employers to discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. The CTR program will provide employees with assistance in using alternative modes of travel, and provide both "carrots" and "sticks" to encourage employees. The CTR program should include all of the following to apply the effectiveness reported by the literature:
* Carpooling encouragement
* Ride-matching assistance
* Preferential carpool parking
* Flexible work schedules for carpools
* Half time transportation coordinator
* Vanpool assistance
* Bicycle end-trip facilities (parking, showers and lockers)

Other strategies may also be included as part of a voluntary CTR program, though they are not included in the reductions estimation and thus are not incorporated in the estimated VMT reductions. These include: new employee orientation of trip reduction and alternative mode options, event promotions and publications, flexible work schedule for all employees, transit subsidies, parking cash-out or priced parking, shuttles, emergency ride home, and improved on-site amenities.

[2] Assume a 15% of employees are eligible to participate in at least one of the voluntary trip reduction programs in 2020 and 30% in 2035. Assume 100% of eligible employees participate in the program.

[3] Source: CAPCOA Quantifying GHG Mitigation Measures. 2010. Pg 218 - Implement Commute Trip Reduction Program - Voluntary. For large metropolitian area (5.2% reduction in commute VMT).

[5] Source: Shelly Meron. Contra Costa Times. "El Cerrito top-ranked city in East Bay for communting by transit". Sun December 21, 2008.
Assume in 2020 and 2035, percentage of residents commuting by public transit stays consistent with 20.5%.
Assume the 80% of workers drive during their commute.

[6] Based on number of employed residents in the City. In 2000, 11,469 residents in the community were employed. 2020 and 2035 figures were extraploated using the 2000 employment figure. Source: 2000 employment figure from 2000 Census data.
http://factfinder.census.gov/servlet/ADPTable?_bm=y&-geo_id=16000US0621796&-qr_name=ACS_2009_5YR_G00_DP5YR3&-ds_name=ACS_2009_5YR_G00_&-_lang=en&-_sse=on.

VMT & Fuel Use Impact

	2020	2035
VMT reduced [1]	341,195	687,457
Gasoline use saved (gallons) (for light-duty vehicles and motocycles only)	19,770	39,833
Average passenger fuel economy- Gasoline [4]	17.26	17.26

[1] Based on average assumed 250 work days/year
[2] Since this measure relates mainly to residents and people who work in El Cerrito, assume VMT reduction from this measure is mainly from light-duty vehicles and motocycles only (gasoline use only versus diesel use). These vehicles make up 87% of the VMT in the community, based on Contra Costa County numbers. % estimation is based on EMFAC VMT count for light-duty autos (PC), light-duty trucks (T1), and light-duty trucks (T2). and motocycles in 2020 and 2035 for Contra Costa County.

[4] Fuel economy source: Use 2005 average fuel efficiency because reductions from increases in fuel efficiency for 2020 and 2035 already counted in reductions from State Pavely standards. U.S. Department of Commerce. Institute for 21st Century Energy. "Metric of the Month: Motor Vehicle Average Miles per Gallon." November 2011.

GHG Emissions Impact

	2020	2035
GHG emissions reduction (tons)	192	387

Sustainable Communities Goal #5, Objective #1:
Encourage businesses and residents to adopt trip reduction programs.
Implement trip reduction education and outreach programs

Program Assumptions [1]

	2020	2035
Estimated % reduction in automobile trips for student commute [2]	10%	10%
Estimated student commute roundtrip (miles) [3]	3	3
Estimated # of students in community [4]	7,480	8,270
Estimated % of students who commute to/from school by car [5]	40%	40%
Assumed # of students in one vehicle if they use vehicles to commute	2	2
Estimated # of annual student round-trip commute trips [6]	299,200	330,787
Estimated annual VMT from student commute (miles)	897,600	992,361

[1] Based on two community outreach & education campaign targeting two types of automobile use: work commute and school commute.
School commute outreach & education campaign is based on School Transport Management Program (STMP), which can include promotion campaigns, special events, and contests to encourage parents, students and staff to reduce automobile travel to school; pedestrian and bicycle encouragement and safety education; organizing "Walking School Buses," in which a parent walks a group of students to and from school; promoting Ridesharing by parents and staff; traffic Calming, speed reductions and neighborhood traffic management around schools; producing a Multi-Modal Access Guide, which concisely describes how to reach the school by walking, cycling and transit; etc. Source: School Transport Management. Encouraging Alternatives to Driving to School. TDM Encyclopedia. Victoria Transport Policy Institute. Updated April 15, 2011.

[2] Travel to school represents 10-15% of peak period motor vehicle trips in typical North American communities, although a smaller portion of total mileage since these trips tend to be shorter than other trip categories. There are currently few detailed studies of the effectiveness of School Transport Management programs, but anecdotal evidence indicates that total reductions in automobile trips of 10-20% or more are possible at a particular school, and much greater reductions are possible when schools are sited and designed for good accessibility. For this modeling, assume a conservative estimate of 10% reduction in automobile trips.
Source: School Transport Management. Encouraging Alternatives to Driving to School. TDM Encyclopedia. Victoria Transport Policy Institute. Updated April 15, 2011.

[3] Based on 130,684 parent questionnaires about their childern's travel to school. 44% of students live one miile or less from school, slightly more than 34% of the children live more than two miles from school. For this modeling, assume students live on average 1.5 miles from school. Source: Safe Routes To School Travel Data. A Look at Baseline Results from Parent Surveys and Student Travel Tallies. Prepared by the National Center for Safe Routes to School.

[4] 2020 and 2035 figures were extrapolated using estimated baseline figure of 6,800 students enrolled in school in the community based on information from American Fact Finder (2005-2009) against population increase. Includes students enrolled in nursery school/preschool, kindergarten, elementary school (grades 1-8), and high school (grades 9-12). Assume # of students in schools increases with population increase. Source: American Fact Finder (2005-2009 Estimatess)
http://factfinder.census.gov/servlet/ADPTable?_bm=y&-geo_id=16000US0668294&-qr_name=ACS_2009_5YR_G00_DP5YR2&-ds_name=&-_lang=en&-redoLog=false

[5] Assume, on average, 45% of students use family vehicles for arrival at school and 35% use family vehicles leaving school in the afternoon. For this modeling, assume 40% of students use family vehicles in general. Source: Safe Routes To School Travel Data. A Look at Baseline Results from Parent Surveys and Student Travel Tallies. Prepared by the National Center for Safe Routes to School. http://www.saferoutesinfo.org/resources/collateral/SRTS_baseline_data_report.pdf

[6] Assume student commute = 5 days a week for 40 weeks annually.

VMT & Fuel Use Impact

	2020	2035
VMT Reduction	89,760	99,236
Gasoline use saved (gallons) (assume for light-duty vehicles and motocycles only) [1]	5,201	5,750
Average passenger fuel economy- Gasoline [7]	17.26	17.26

[1] Since this measure relates mainly to light-duty vehicles, assume VMT reduction from this measure is mainly from light-duty vehicles and motocycles only (gasoline use only versus diesel use).

[7] Fuel economy source: Use 2005 average fuel efficiency because reductions from increases in fuel efficiency for 2020 and 2035 already counted in reductions from State Pavely standards. U.S. Department of Commerce. Institute for 21st Century Energy. "Metric of the Month: Motor Vehicle Average Miles per Gallon." November 2011.

GHG Emissions Impact

	2020	2035
Electricity GHG emissions reduction (tons)	50	56

Appendix I
Reductions in CO2e from Energy and Water Goals

Energy and Water Goal #1, Objective 1:
Promote and provide energy and water efficiency education & incentive programs in El Cerrito

Program Assumptions

	2020	2035
Residents & people who work in El Cerrito	31,210	35,040
% market penetration [1]	12.0%	32.0%
Annual per capita electricity use (kWh) res and biz	11,112	10,179
Annual per capita natural gas use (therms) res & biz	368	368
Project goal: % reduction in energy use by residents who choose to become more energy efficient [2]	15%	20%

[1] Based on anecdotal evidance from PG&E's SmartLights program, 3% market penetration per year was achieved (3% of community conducted energy efficiency retrofits) through strong outreach and education campaigns throughout the community. Using a more conservative annual 1.5% market penetration rate results in 12% market penetration in both the residential and commercial sectors over the next 8 years and an annual 1% market penetration rate from 2020 thru 2035 results in a 32% market penetration by 2035.

[2] Assume achieving a 15% reduction in residential energy use by 2020 and a 20% reduction by 2035 for those residents and businesses who choose to become more energy efficient as a result of the implementation of this measure.

Electricity Use Impact

	2020	2035
Electricity use reduction (kWh)	6,242,306	22,826,559

Natural Gas Use Impact

	2020	2035
Natural gas use reduction (therms)	206,792	825,488

Cost Impact

	2020	2035
Electricity cost savings from reduced utility bills	$ 811,500	$ 2,967,453
Natural gas cost savings from reduced utility bills	$ 221,060	$ 882,446
Total	**$ 1,032,560**	**$ 3,849,899**

GHG Emissions Impact

	2020	2035
Electricity GHG emissions reduction (tons)	1,526.74	5,582.92
Natural gas GHG emissions reduction (tons)	1,209.50	4,828.17
Total (tons)	**2,736.24**	**10,411.08**

Energy and Water Goal #1, Objective 2:
Promote clean energy financing strategies for property owners

Promote Weatherization and Solar PV Improvements to the Existing Residential Building Stock through these potential ginancing programs:
1. Property Accessed Clean Energy (PACE) programs work by allowing a government entity to provide the upfront capital for a building owner to invest in a retrofit. The government raises the money from the municipal or state bond market. The building owner then pays the government back via an increase to the semiannual property tax assessment. The advantage for a homeowner is that the payments stay with the property and not with the owner, in the event that the owner sells the property before he or she can pay off the retrofit lien.

2. Energy Efficient Mortgages (EEMs) and rehabilitation mortgages, through the federal Section 203(k) program, 57 allow upfront retrofit costs to become part of the home mortgage. These programs package the financing for the energy efficiency work as part of the single mortgage and allow borrowers to qualify for a larger loan amount to cover the extra costs. The idea is that the energy efficiency work will save the consumer more money in reduced energy costs on a monthly basis than the cost of the additional payment on the mortgage. However, many homebuyers, realtors, and mortgage lenders are unaware of these programs. They therefore have tremendous potential for greater utilization.

3. Utility Provided On-Bill Financing programs allow electric utility customers to finance energy efficiency measures through their energy bills at low or no interest, with the upfront money provided by the utilities. PG&E is in the process of developing OBF for non-residential customers.
Source: http://www.law.berkeley.edu/files/Saving_Energy_May_2010(1).pdf

Program Assumptions

Table 1	**2020**	**2035**
Number of housing units	11,040	11,740
Estimated percent reduction per housing unit in energy use from energy efficiency retrofit implementation [1]	22%	22%
Participation rate in program [2]	13.0%	26.0%
Assumed % of participants implementing energy efficiency retrofits through this program	95%	90%
Assumed % of participants implementing renewable energy generation through this program	5%	10%
Residential electricity use (kWh)	43,979,521	41,456,248
Residential natural gas use (therms)	5,259,264	5,647,242
Average capacity of system installed on participating unit/household (kW)	3.5	3.5
Number of housing units that install PV	72	305
Total capacity installed (kW)	251	1,068

[1] Assumes 22% reduction in natural gas use from energy efficiency retrofits in homes. This is based on energy savings estimates from the following data. The average of 10%, 25%, 46%, and 5% (conservative estimates) from the below four sources was utilized:
a) Program staff estimates that on average each household served by existing low-income weatherization programs reduces annual energy consumption by 10-25%. Source: Berkeley June 2009 Climate Action Plan. http://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3_-_Energy_and_Sustainable_Development/Berkeley%20Climate%20Action%20Plan.pdf
b) Weatherization led to natural gas savings of 46% in approximtely average size El Cerrito home. Case study by Maria Sanders, City of El Cerrito. Energy efficiency measures included Energy Star furnace, relcalibration of programmable thermostat, sealing/repair of leaky furance duct, sealing of attic leakage, and insulation of attic.
c) Basic weatherization can save 5 to 15% of energy use. Source: Enabling Investments in Energy Efficiency. A study of energy efficiency programs that reduce first-cost barriers in the residential sector. Prepared by Merrian Fuller, Energy & Resources Group, UC Berkeley. May 21, 2009. http://uc-ciee.org/energyeff/documents/resfinancing.pdf

[2] Below study states that the most successful energy efficiency financing programs have the following participation rates. Manitoba Hydro had a 1.9%. SMUD reached 0.6% of its customers in 2007, and has reached approximately 26% of its customers since its program inception in 1977. For this modeling, SMUD's numbers were used. Assumed 26% participation rate by 2035, and half of that (13%) by 2020. Source:Enabling Investments in Energy Efficiency. A study of energy efficiency programs that reduce first-cost barriers in the residential sector. Prepared by Merrian Fuller, Energy & Resources Group, UC Berkeley. May 21, 2009. http://uc-ciee.org/energyeff/documents/resfinancing.pdf

Table 2

Peak sunhours in El Cerrito per year [1]	1,716
Solar Derating Factor [2]	33%

[1] Based on San Francisco's sun hours = 4.7 average for year. Peak sunhours at 37.62 degrees N. latitude and 0 degree tilt. Source: National Renewable Energy Laboratory. Solar Radiation Data Manual for Flat Plate and Concentrating Collectors. http://www.nrel.gov/docs/legosti/old/5607.pdf

[2] Source: California Energy Commission. Guide to Photovoltaic System Design and Installation. June 2001. Derating factor takes into consideration standard test condictions (0.95), temperature (0.89), dirt and dust (0.93), wiring losses and mismatch (0.95), and DC to AC conversion (0.90). In all, equates to 0.67 or 67%. http://www.energy.ca.gov/reports/2001-09-04_500-01-020.PDF

Electricity Use Impact

		2020	2035
Energy Efficiency	Reduction in electricity use from energy efficiency retrofits (kWh)	NA	NA
Solar PV	Clean electricity supply added by solar PV (kWh)	288,680	1,227,934

Natural Gas Use Impact

		2020	2035
Energy Efficiency	Reduction in natural gas use from energy efficiency retrofits (therms)	139,647	284,113

GHG Emissions Impact

	2020	2035
Electricity GHG emissions reduction (tons)	71	300
Natural gas GHG emissions reduction (tons)	817	1,662
Total (tons)	**887**	**1,962**

Energy and Water Goal #1, Objective 3:
Utilize existing points of interaction with the City to encourage and/or require cost-effective energy and water efficiency improvements

Program Assumptions

Types of energy efficiency improvements that could be implemented by using permit incentives/ requirements to improve energy and water efficiency in existing residential units. Only energy savings computed here.

Level 1:

- Low flow toilets, showerheads and faucet aerators
- Hot and cold water pipe insulation at least 5 feet from the water heater
- Water pressure regulator in high water pressure districts

Level 2:

- Air sealing + R-30 roof/ceiling insulation (if < R-13 existing roof/ceiling insulation)
- Air sealing + R-19 raised floor insulation (if no existing raised floor insulation)
- Furnace duct repair

Level 3:

- Voluntary Home Energy Assessment Report at time-of-sale

Baseline Assumptions:

	2020	2035
Total El Cerrito housing units	11,040	11,740
Residential natural gas use (therms)	5,259,264	5,647,242
Annual natural gas use per housing unit	476	481

Level 1 Program Assumptions:

	2020	2035
Cumulative number of housing units participating beginning in 2015 [1]	375	1,500
% Energy reduction from implementation of Level 1 measures [2]	3%	3%

[1] Assume 75 permits pulled per year for hot water heater, plumbing upgrades (source: El Cerrito permit statistics 2008)

[2] Assume a therm savings of 3% from Level I measures from hot water savings.

Level 2 Program Assumptions:

	2020	2035
Cumulative number of housing units participating beginning in 2015 [1]	500	2,000
% Energy reduction from implementation of Level 2 features [2]	16%	16%

[1] Assume 100 permits pulled per year for Furnace, duct, weatherization related upgrades (source: El Cerrito permit statistics 2008)

[2] Assume a therm savings of 16% from one Level 2 measure implemented (source: Mike Gable and Associates, Study for City of Hayward's Energy Conservation Ordinance)

Level 3 Program Assumptions: Voluntary Home Energy Performance Report at Time of Sale

	2020	2035
Cumulative number of housing units participating beginning in 2015 [3]	1,000	4,000
% Energy reduction from implementation of Level 3 features [2]	22%	22%

[1] Assume 200 homes sold in El Cerrito per year (source: Approximate number of homes sold per year 2006-2011). 25% choose to get and act on a Home Energy Assessment Report.

[2] Assume a therm savings of 22% from Level 3 measures from one Level 2 measure implemented. This is based on energy savings estimates from the following data. The average of 10%, 25%, 46%, and 5% from sources documented in EW.-1.2.

Natural Gas Use Impact

	2020	2035
Annual natural gas saved (therms)	148,274	598,877

GHG Emissions Impact

	2020	2035
GHG emissions reduction (tons)	867	3,503

Energy and Water Goal #2, Objective 1:
Encourage new construction to adopt national and/or regional green building, energy, and water performance standards

Program Assumptions

Only energy savings resulting from green building measures quantified here. Savings in embedded energy from green materials does not count toward reduction goals and therefore not computed here.

	2020	2035
Amount of traditional fossil-fuel energy use that will be reduced for zero-net energy new construction (usually via combination of on-site energy generation and energy efficiency)	80%	80%
Target % of residential zero-net energy new construction [1]	10%	20%
Target % of non-residential zero-net energy new construction [1]	3%	10%
Percent savings over comparable building for LEED rated residential and non-residential buildings	25%	40%
Target % of LEED rated residential and non-residential	25%	50%

[1] Due to urban infill nature of future multifamily and commercial development, target % of zero-net energy building is less than the percentages (25% of both new multi-family and commercial buildings by 2020 and 50% by 2035) envisioned by the 2007 strategic planning process for CA's energy future determined for the commercial sector from various public workshops. Source: http://www.californiagreensolutions.com/cgi-bin/gt/tpl.h,content=2782 *OR* http://www.californiaenergyefficiency.com/docs/Appendices_final-ceesp_forserving_June.pdf
2) On average, LEED rated buildings' energy consumption is 25-30% lower than the national average. Source: ICLEI's CAPPA Beta Version 2. Turner and Frankel, Energy Performance of LEED for New Construction Buildings. March 2008. New Buildings Institute. Http:///wwwnewbuildings.org/downloads/Energy_Performance_of_LEED-NC_Buildings-Final_3-4-08b.pdf

Electricity Use Impact

		2020	2035
Residential	Number of current housing units	11,040	11,740
	Residential electricity use (kWh)	43,979,521	41,456,248
	Annual electricity use per housing unit (kWh) [2]	1,992	1,766
	# of new residential units [1]	700	1,400
	Reduction in Residential new construction electricity use (kWh)	198,685	889,862
Non-residential	Number of businesses	545	707
	Non-residential electricity use (kWh)	63,395,765	75,993,020
	Annual electricity use per business (kWh)	116,365	107,456
	# of new non-residential construction	75	150
	Reduction in non-residential new construction electricity use (kWh)	754,919	4,513,160
	Total (kWh)	**953,604**	**5,403,022**

[1] Number of units based on growth rate extrapolated from the 2007-2014 Regional Housing Needs Allocation in the current *El Cerrito Housing Element* .
[2] From Home Energy Magazine, Rick Diamond, Oct 1995: Patterns of energy use in multifamily buildings are different from those in single-family houses. The average multifamily household uses less than half as much energy as the average single-family household--51 million Btu (MMBtu) per household compared to 111 MMBtu per single-family household (see Table 1). When compared on a floor area basis, however, the multifamily units are larger users--62,000 Btu/ft2 versus 51,000 Btu/ft2 for the single-family house. One reason for this is that the average floor area of a multifamily apartment (800 ft2) is less than half the average floor area of a single-family house (1900 ft2).

Natural Gas Use Impact

		2020	2035
Residential	Number of housing units	11,040	11,740
	Residential natural gas use (therms)	5,259,264	5,647,242
	Annual natural gas use per housing unit (therms) [1]	238	241
	# of new residential construction	700	1,400
	Reduction in residential new construction natural gas use (therms)	23,760	121,218
Non-residential	Number of businesses	545	707
	Non-residential natural gas use (therms)	1,038,913	1,348,604
	Annual natural gas use per business (therms)	1,907	1,907
	# of new non-residential construction	75	150
	Reduction in Non-residential new construction natural gas use (therms)	12,371	22,884
	Total (therms)	**36,131**	**144,102**

GHG Emissions Impact

	2020	2035
Electricity GHG emissions reduction (tons)	233	1,321
Natural gas GHG emissions reduction (tons)	211	11
Total (tons)	**445**	**1,333**

Energy and Water Goal 3, Objective 1:
Facilitate greater adoption of renewable energy use

Program Assumptions

Table 1		2020	2035
Residential	Average # of solar PV systems installed per year [1]	46	130
	Projected # of solar PV systems installed during interim period	697	1,950
	Average capacity of system installed on participating unit (kW) [2]	3.8	3.8
	Total capacity installed (kW)	2,650	7,410
	2035 cumulative KW Installed		10,060
Non-residential	Average # of solar PV systems installed per year [3]	3	4
	Average capacity of system installed on participating unit (kW) [3]	25	25
	Projected # of solar PV systems installed	45	60
	Total capacity installed (kW)	1,125	1,500
	2035 cumulative KW Installed		**2,625**

Table 2

Peak sun hours in El Cerrito per year [4]	1,716
Solar Derating Factor [5]	33%

[1] Assume average annual growth rate 15% per year in number of solar systems installed (based on current growth rates of installation in El Cerrito). Annual average number is total number of systems installed between 2010 and 2020 and 2021 and 2035 divided by number of years.

[2] Source: GoSolarCalifornia. http://www.californiasolarstatistics.org/reports/locale_stats/. Downloaded spreadsheet with El Cerrito's solar PV installations. El Cerrito had a total of 64 solar installations between 2007 and 2010 (4 years), 14 in 2007, 11 in 2008, 18 in 2009, and 21 in 2010. Figures based on first confirmed reservation dates, and therefore these figures include pending and already installed systems. The average systems size is 3.84 kW (nameplate rating).

[3] Source: GoSolarCalifornia. http://www.californiasolarstatistics.org/reports/locale_stats/. Downloaded spreadsheet with El Cerrito's solar PV installations. El Cerrito had a total of two non-residential (non-profit) solar installations, 24.84 kW and 55.125 kW, during 2008 and 2009 (first confirmed reservation date), respectively. Based on this information, assume less than 5 non-residential systems installed per year.

[4] Based on San Francisco's sun hours = 4.7 average for year. Peak sunhours at 37.62 degrees N. latitude and 0 degree tilt. Source: National Renewable Energy Laboratory. Solar Radiation Data Manual for Flat Plate and Concentrating Collectors. http://www.nrel.gov/docs/legosti/old/5607.pdf

[5] Source: California Energy Commission. Guide to Photovoltaic System Design and Installation. June 2001. Derating factor takes into consideration standard test condictions (0.95), temperature (0.89), dirt and dust (0.93), wiring losses and mismatch (0.95), and DC to AC conversion (0.90). In all, equates to 0.67 or 67%. http://www.energy.ca.gov/reports/2001-09-04_500-01-020.PDF

Electricity Use Impact

		2020	2035
Residential	Clean electricity supply added (kWh)	3,045,461	11,562,404
Non-residential	Clean electricity supply added (kWh)	1,293,058	3,017,136
	Total	*4,338,519*	*14,579,539*

GHG Emissions Impact

		2020	2035
Residential	GHG emissions reduction (tons)	745	2,828
Non-residential	GHG emissions reduction (tons)	316	738
	Total	*1,061*	*3,566*

Energy and Water Goal #3, Objective 2:
Community Choice Aggregation

Program Assumptions

	2011	2020	2035
Residents and people who work in El Cerrito		31,210	35,040
Total electricity consumption (GWH)		107	117
% market penetration [1] of CCA in El Cerrito		80.0%	80.0%
Electricity consumption of CCA participants (GWH)		86	94
Percent Growth for renewables for both PG&E and CCA from 2011		14%	46%
Increment between PG&E and CCA Emissions Factors (MT/ GWH) [2] [3]	39	45	65

[1] Assume 20% opt out rate of El Cerrito electricity accounts under a CCA program, based on existing opt-out rate for Marin Clean Energy.

[2] Using 2011 increment between PG&E's emissions factor (260.4 MT/GWH) and Marin Clean Energy's emissions factor (221.1 MT/GWH). Source: PG&E GHG Emissions Factor Information Sheet 4-10-12; Marin Clean Energy htt;://marincleanenergy.info/power-sources.

[3] Assume a 1.9% annual growth in renewables as part of energy portfolio for both CCA and PG&E. Based on current PGE progess of making 33% by 2020 as required by the RPS. PG&E's renewable portfolio was 19% in 2011. PG&E http://www.pgecurrents.com/2012/03/01/pge-makes-progress-toward-cleaner-energy/

GHG Emissions Impact

		2020	2035
GHG emissions reduction (MT)		3,849	6,129
GHG emissions reduction (tons)		4,242	6,868

Appendix J
Reductions in CO2e from Waste Reduction

Waste Reduction Goal #1:
Reduce waste going to the landfill to 4000 tons by 2020 and 2000 tons by 2035

Program Assumptions:

Tons of CO2e reduced from tons of landfilled waste diverted calculated using the U.S. EPA's Waste Reduction Model (WARM).

EPA created the WARM to help solid waste planners and organizations track and voluntarily report greenhouse gas (GHG) emissions reductions from several different waste management practices. WARM is available on the EPA website at http://www.epa.gov/climatechange/waste/calculators/Warm_home.html. WARM calculates and totals GHG emissions of baseline and alternative waste management practices—source reduction, recycling, combustion, composting, and landfilling. The model calculates emissions in metric tons of carbon equivalent (MTCE), metric tons of carbon dioxide equivalent (MTCO2E), which was converted to U.S. tons CO2e for purposes of the El Cerrito CAP.

Baseline Tons of Waste Landfilled		2020 Tons Landfilled				2035 Tons Landfilled			
Waste Stream [1]	2005 tons garbage	2020 tons BAU [2]	2020 Reduction Target	[3] Amount diverted from 2020 projection		2035 tons BAU [4]	2035 Reduction Target	Amount diverted from 2035 projection	
Food Scraps	2,227	2,392	718	1,674	70%	2,561	256	2,305	90%
Yard Trimmings	5,900	6,337	1,584	4,753	75%	6,785	1,018	5,767	85%
Mixed Paper	3,093	3,322	897	2,425	73%	3,557	356	3,202	90%
Mixed MSW	3,558	3,822	879	2,943	77%	4,092	409	3,683	90%
	14,779	**15,873**	**4,078**	**11,795**	**74%**	**16,996**	**2,039**	**14,957**	**88%**

[1] Waste stream categories for input into the EPA WARM tool is different than the California Waste Characterization study. For purposes of quantying CO2e from waste, tonnage from California Waste Characterization study has been reclassified to best fit the waste categories in WARM.

[2] 2020 BAU projection assumes an increase in waste generation by 7.4% over 2005

[3] Assume 74% diversion rate from 2020 BAU for 2020 goal

[4] 2035 BAU projection assumes an increase in waste generation by 15% over 2005

[5] Assume an 88% diversion rate from 2035 BAU for 2035 goal

GHG Emissions Analysis -- Summary Report

Version 10 (10/09)

GHG Emissions Waste Management Analysis for City of El Cerrito

Prepared by: Maria Sanders

Project Period for this Analysis: 01/01/20 to 12/31/20

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): 7,115

Commodity	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Food Scraps	NA	2,392.0	-	-	1713
Yard Trimmings	NA	6,337.0	-	-	(1141)
Mixed Paper, Resid.	-	3,322.0	-	NA	778
Mixed MSW	NA	3,822.0	-	NA	5765
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Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA report:
Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks (EPA530-R-06-004)
-- available on the Internet at http://epa.gov/climatechange/wycd/waste/downloads/fullreport.pdf (5.6 Mb PDF file).

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

GHG Emissions from Alternative Waste Management Scenario ($MTCO_2E$): 791

Commodity	Tons Source Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Food Scraps	0.0	NA	718.0	0.0	1701.4	174
Yard Trimmings	0.0	NA	1584.0	0.0	3168.5	(919)
Mixed Paper, Resid.	NA	0.0	897.0	0.0	NA	210
Mixed MSW	NA	NA	879.0	0.0	NA	1326
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Total Change in GHG Emissions: (6,324) $MTCO_2E$

This is equivalent to...		
Removing	**1,158**	Passenger Cars from the Roadway Each Year
Conserving	**717,824**	Gallons of Gasoline
Conserving	**2,635,013**	Cylinders of Propane Used for Home Barbeques
Conserving	**33**	Railway Cars of Coal
	0.00034%	Annual CO_2 emissions from the U.S. transportation sector
	0.00026%	Annual CO_2 emissions from the U.S. electricity sector

GHG Emissions Analysis -- Summary Report

Version 10 (10/09)

GHG Emissions Waste Management Analysis for City of El Cerrito

Prepared by: Maria Sanders

Project Period for this Analysis: 01/01/35 to 12/31/35

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): 7,682

Commodity	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Food Scraps	NA	2,651.0	-	-	1899
Yard Trimmings	NA	6,785.0	-	-	(1222)
Mixed Paper, Resid.	-	3,557.2	-	NA	833
Mixed MSW	NA	4,092.0	-	NA	6172
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Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA report:
Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks (EPA530-R-06-004)
-- available on the Internet at http://epa.gov/climatechange/wycd/waste/downloads/fullreport.pdf (5.6 Mb PDF file).
b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

GHG Emissions from Alternative Waste Management Scenario ($MTCO_2E$): (715)

Commodity	Tons Source Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Food Scraps	0.0	NA	256.0	0.0	1988.3	(214)
Yard Trimmings	0.0	NA	1018.0	0.0	5088.8	(1201)
Mixed Paper, Resid.	NA	0.0	356.0	0.0	NA	83
Mixed MSW	NA	NA	409.0	0.0	NA	617
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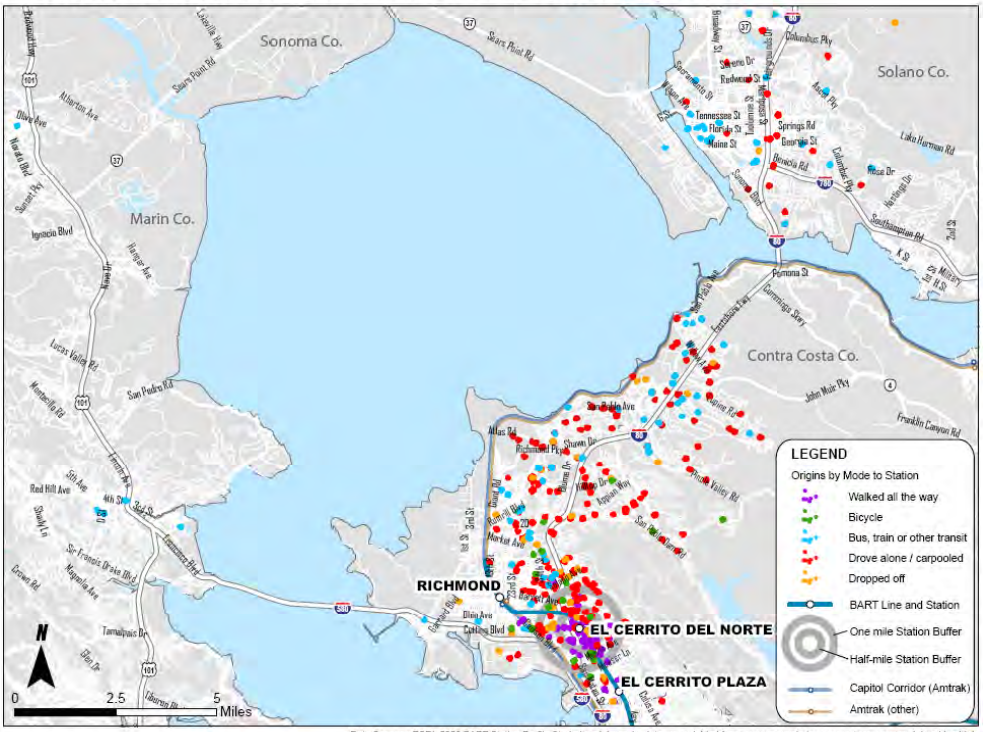
Total Change in GHG Emissions: (8,397) $MTCO_2E$

This is equivalent to…		
Removing	**1,538**	Passenger Cars from the Roadway Each Year
Conserving	**953,148**	Gallons of Gasoline
Conserving	**3,498,847**	Cylinders of Propane Used for Home Barbeques
Conserving	**44**	Railway Cars of Coal
	0.00044%	Annual CO_2 emissions from the U.S. transportation sector
	0.00035%	Annual CO_2 emissions from the U.S. electricity sector

Appendix K
Home Locations of BART Riders by Mode

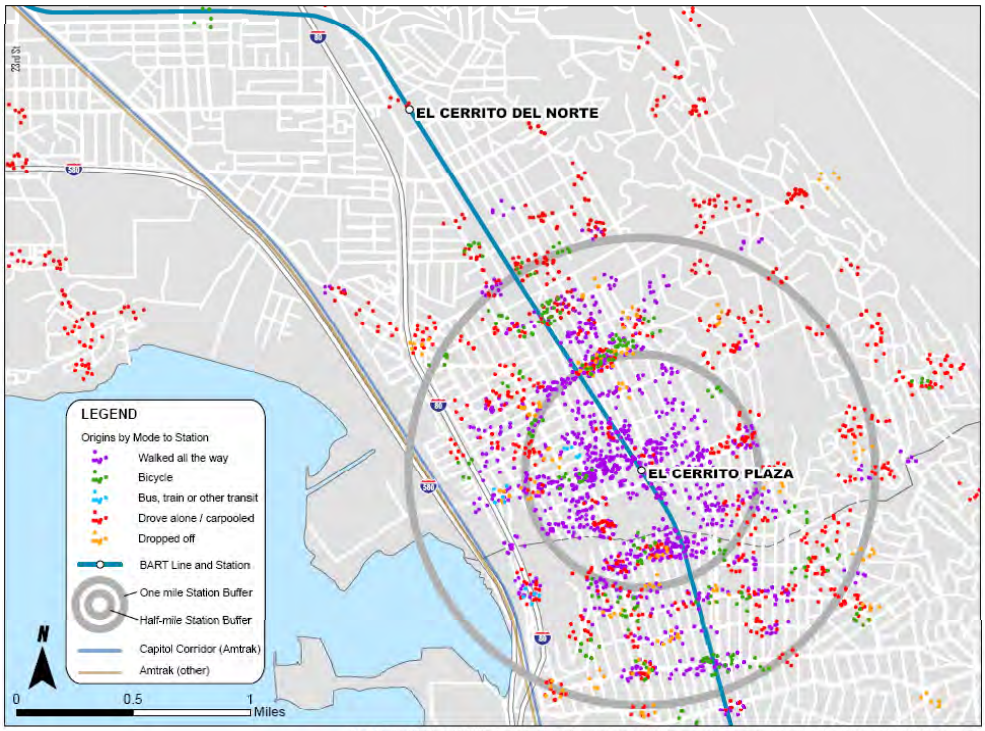
El Cerrito del Norte Station: Home Locations of BART Riders by Mode



Data Sources: ESRI, 2008 BART Station Profile Study (weekday only; data are weighted from survey sample to represent average weekday ridership)

Average Weekday Ridership	7,800
Bus Service	
AC Transit	7 routes
Golden Gate Transit	2 routes
Vallejo Transit	1 route
Fairfield/Suisun	1 route
WestCAT	4 routes
Travel Mode	
Drive Alone	45%
Transit	22%
Walk	13%
Bicycle	3%
Carpool/ Drop-off	17%
City of Home Origin	
Richmond	26%
El Cerrito	18%
Vallejo	11%
San Pablo	9%
Hercules	9%
Other	27%

El Cerrito Plaza Station: Home Locations of BART Riders by Mode



Data Sources: ESRI, 2008 BART Station Profile Study (weekday only; data are weighted from survey sample to represent average weekday ridership)

Average Weekday Ridership	4,400
Bus Service	
AC Transit	5 routes
Travel Mode	
Drive Alone	38%
Transit	1%
Walk	44%
Bicycle	6%
Carpool/ Drop-off	11%
City of Home Origin	
El Cerrito	47%
Albany	20%
Richmond	14%
Kensington	7%
Berkeley	4%
Other	8%

Source: CHS Consulting Group. *El Cerrito Parking Study*. November 21, 2011.

Appendix L
Climate Action Survey Results

City of El Cerrito Residential Climate Action Survey

Below are the results of a voluntary survey of 452 individuals conducted March 2010 through December 2010. Responses were collected using a variety of means, including electronically through an on-line website and in hard copy form at City events. This was not a random sample survey.

1. **Which of the following describes you? (If you are a business owner or are employed in El Cerrito and not a resident, please sign up to take our Business Survey when it becomes available at www.greenelcerrito.org.)**
   - Resident of El Cerrito 97.2%
   - Owner of residential units in El Cerrito 5.6%
   - Other 2.8%

2. **Do you rent or own your home (if resident of El Cerrito)?**
   - Rent 20.3%
   - Own 79.7%

3. **How far away from your home do you work? (answer only for yourself)**
   - Median number of miles commuting to work (roundtrip) 15 miles
   - Average number of miles commuting to work (roundtrip) 19.7 miles

4. **What is your usual method of transportation to and from work? (If you use more than one method, please indicate rough percentages of all that apply)**
   - Car (by self) 55.9%
   - Carpool/ Ride Share 13.6%
   - BART 34.2%
   - Bus 11.0%
   - Bicycle 15.0%
   - Walk 10.7%
   - Work from Home 9.9%
   - Other 3.7%
   - Not Applicable 15.5%

5. **What is your usual method of transportation while conducting errands? (If you use more than one method, please indicate rough percentages of all that apply)**
   - Car 95.3%
   - BART 18.3%
   - Bus 6.1%
   - Bicycle 18.1%
   - Walk 46.9%
   - Other 3.1%
   - Not Applicable 1.4%

6. **How often do you ride public transit (other than to commute)?**
   - Every day 4.4%
   - Multiple times per week 14.3%
   - Once a week 14.3%
   - About once a month 33.5%
   - Every six months or so 24.7%
   - Never 8.8%

7. **From your home or office location in El Cerrito, approximately how long does it take to safely walk to purchase the majority of daily goods and services at such places as grocery stores, cafes, restaurants, post offices, gyms, hardware stores, etc.?**
   - About 5 minutes 8.4%
   - About 10 minutes 18.8%
   - About 15 minutes 23.4%
   - More than 15 minutes 36.4%
   - It is not possible for me to walk to these types of places 13.0%

8. **Which of the following would make you ride TRANSIT more often? (select all that apply)**
   - Stops closer to home, work, shopping, and recreation 31.6%
   - Cleaner and safer system 17.7%
   - A free shuttle from/to BART 31.6%
   - More service and convenience 34.2%
   - More expensive gas and tolls 13.4%
   - Employer incentives to ride transit, like free bus passes or BART Tickets 17.1%
   - Nothing 12.0%
   - I already ride transit a lot 13.1%

9. **Which of the following would make you ride a BICYCLE more often? (select all that apply)**
   - Traffic calming measures 26.0%
   - More cycle storage facilities at transit stations 22.1%
   - More secure parking in retail areas and other destinations 28.6%
   - Safer bike lanes 38.1%
   - More bike lanes 39.2%
   - Route information 12.1%
   - Free Safety Classes 6.2%
   - I already ride my bicycle a lot 12.1%
   - Nothing 30.7%

10. **Are you concerned about energy use in your home?**
    - Yes 83.3%
    - No 16.7%

11. **Which of the following statements are true in terms of what would motivate you to make energy efficiency improvements to your home? (select all that apply)**
    - My home is cold, damp and drafty and/or I want to improve its comfort 34.4%
    - My furnace and/or hot water heater are old and need to be replaced soon 24.9%
    - I'd like to upgrade my appliances (refrigerator, dishwasher, washer and dryer) 31.8%
    - I'd like to do as much as I can afford to lower my carbon footprint 62.1%
    - My home energy costs are too high 27.7%
    - I am not that concerned about energy use in my home 13.0%

12. **Which of the following energy efficiency improvements HAVE YOU DONE in your home to reduce your energy usage? (select all that apply)**
    - Changed light bulbs to more energy efficient alternatives 90.3%
    - Installed and properly calibrated a programmable thermostat 50.7%
    - Conducted a professional home energy performance audit 10.0%
    - Air sealed and insulated attic 27.3%
    - Air sealed and insulated walls 17.0%
    - Air sealed and insulated floors 8.1%

- Replaced major appliances with Energy Star Rated ones 52.4%
- Installed tankless water heater 9.7%
- Installed solar hot water heater 1.9%
- Installed photovoltaic solar panels on the roof 5.8%
- I rent and am unable to make significant energy improvements to my home 13.9%

13. Which of the following energy efficiency improvements are you INTERESTED IN DOING in your home to reduce your energy usage? (select all that apply)

- Change light bulbs to more energy efficient alternatives 17.4%
- Install and properly calibrate a programmable thermostat 17.1%
- Conduct a professional home energy performance audit 26.8%
- Air seal and insulate attic 28.7%
- Air seal and insulate walls 30.2%
- Air seal and insulate floors 28.0%
- Replace major appliances with Energy Star Rated ones 31.4%
- Install tankless water heater 34.1%
- Install solar hot water heater 26.5%
- Install Photovoltaic Solar Panels on the roof 43.3%
- I rent and am unable to make significant energy improvements to my home 15.2%

14. Which of the following statements are true in terms of why you HAVE NOT YET PURSUED those energy efficiency improvements that you are interested in pursuing? (select all that apply)

- I don't have enough information to feel comfortable about making these improvements 19.3%
- I don't have enough time to make them a priority 19.9%
- The upfront costs are too high 61.2%
- It's on my "To Do" list and I plan to complete at least one of these improvements within a year 29.4%
- I rent and am unable to make significant energy improvements to my home 16.8%

15. In order to encourage greater adoption of residential energy efficiency and renewable energy generation, which policy mechanisms or programs would you support the City of El Cerrito pursuing? (select all that apply)

- Providing access to a financing mechanism (a.k.a, Property Accessed Clean Energy or AB811 financing) whereby property owners can install solar and major energy efficiency improvements and repay those costs as a line item on their property tax bill, thereby allowing repayment of the improvement costs to stay fixed with the property rather than with the original homeowner (if the property changes hands before the loan is fully repaid). 74.6%
- Public education on energy efficiency, its benefits, and appropriate rebates and incentives 55.9%
- Requiring that home sellers provide at time-of-sale a certified home energy performance report identifying the energy performance of the residence and any work necessary to make the home more energy efficient, safe, and comfortable. 31.7%
- Requiring that a residence have prescriptive energy efficiency improvements made at the time-of-sale or during major additions and remodels 25.7%
- I would not support any of these policy mechanisms. 7.3%

16. To further reduce your waste generation, which of the following programs would be most beneficial for your household? (Select all that apply)

- Once annual pickup of large recyclable items or quantities 57.2%
- Curbside battery collection 50.9%
- Weekly curb-side yard waste collection 37.6%

- Food scraps and other organics with curbside yard waste collection 53.5%
- Smaller garbage bin size option to reduce your overall monthly bill (e.g. 10 gallons weekly, half the size of the current smallest bin) 37.9%
- More drop-off options at the El Cerrito Recycling Center for reusable items 48.0%
- More drop-off options at the El Cerrito Recycling Center for hard-to-recycle items like fluorescent lights, medicines, and motor oil 62.4%

17. Many cities have instituted bans on certain types of packaging (such as plastic grocery bags and Styrofoam take-out containers) in order to reduce litter and storm drain contamination. Would you support El Cerrito in instituting such bans?

- Yes 73.5%
- No 11.0%
- Don't Know 15.5%

18. "Greenhouse gas (GHG) emissions are changing the earth's climate and pose a serious threat to our economic well-being, public health, and the environment."

- Strongly agree 74.4%
- Somewhat agree 16.9%
- Somewhat disagree 2.7%
- Strongly disagree 2.7%
- Don't know 3.2%

19. "Because the effects of climate change are being felt now and are projected to increase in severity by 2050 given our current emissions, the need to take action to reduce greenhouse gases is urgent."

- Strongly agree 74.4%
- Somewhat agree 16.7%
- Somewhat disagree 2.7%
- Strongly disagree 3.2%
- Don't know 3.0%

20. "Local governments such as El Cerrito have an obligation to help California meet the State's mandated greenhouse gas reduction target of 30% below 1990 levels by 2020."

- Strongly agree 71.3%
- Somewhat agree 18.3%
- Somewhat disagree 4.0%
- Strongly disagree 3.3%
- Don't know 3.3%

Appendix M
Public Workshop Notes

Workshop Notes

El Cerrito Climate Action Plan
Workshop #1

Tuesday, October 26, 2010, 5:00 p.m.
El Cerrito City Hall (City Council Chambers)
10890 San Pablo Avenue

Workshop Presenters:

- Melanie Mintz, Environmental Services Division Manager, City of El Cerrito
- Maria Sanders, Environmental Analyst, City of El Cerrito
- Ariel Ambruster, Facilitator, Center for Collaborative Policy

1. **Meeting Overview and Participant Introductions**
   Ariel Ambruster gave an overview of the meeting agenda and ground rules. Meeting participants introduced themselves and briefly discussed their interest in the Climate Action Plan.

2. **Presentation on El Cerrito's Climate Action Planning Process**
   Maria Sanders presented an introduction to the context, purpose and organization of El Cerrito's Climate Action Plan (CAP). Please refer to ***CAPWorkshop#1.ppt*** for more on the contents of the presentation, including an overview of El Cerrito's 2005 greenhouse gas emissions inventory and examples of potential emission reduction strategies.

3. **Possible Climate Action Strategies Worksheet**
   Meeting participants were given a worksheet to fill out individually, soliciting their comments on the following questions:
   i. Of the strategies mentioned in today's presentation, please answer the following:
      - Which ones do you think would have the greatest potential to reduce greenhouse gas emissions?
      - Which ones would you support the City pursuing?
      - Which ones would you not support?

   ii. A number of possible policies, ordinances, programs, or projects that could help El Cerrito reduce its carbon footprint were discussed today. What additional ideas do you have as options the City could pursue?

   iii. Many of the City's climate action strategies will rely on voluntary participation by members of the community in order to be successful. What types of things could the City do to encourage greater participation by the community in the following activities?
      - Commuting to work car-free (i.e., walk, bike, or take public transit to work) more often
      - Making energy efficiency or clean energy improvements to homes and businesses
      - Reducing garbage going to the landfill

4. **Large Group Discussion**
   Participants made the following comments:
   i. ***Transportation Strategies:***

- Encourage more biking and walking, link bike stations and more car share services with BART stations
- A chair lift for overcoming El Cerrito's steep hills?
- Organize a casual carpool to BART for people living in the hills who would drive to and park at BART
- More secure bike parking (bike valet?) at BART and elsewhere. No one who wants to bike should have to worry about finding a safe place to park their bike.
- Bike Boulevards like in Berkeley

ii. ***Energy Strategies:***

- Need to overcome barrier of high upfront costs in retrofitting homes. A Property Assessed Clean Energy Program could help by amortizing costs. But we need to focus on identifying and going after the low-payback measures.
- City should think about whether there really is a true reduction from the solar permit fee waiver. Permit fees should be reasonable, but waiving permit fee altogether may not have a very big impact.
- The real savings will come from conservation and efficiency measures. Bring all the program resources out there together to help people retrofit their homes.
- Energy efficiency is a good local business opportunity.
- When it comes to residential natural gas savings, an ordinance is the way to go.
- By tying residential energy savings to a Time-of Sale ordinance, there's a disincentive for home owners to act early on and get cost savings from improvements. Should link any ordinance to home owners cost savings.
- Streamline or otherwise create incentives for permits on energy efficiency improvements.
- In favor of some type of energy conservation ordinance in order to get at a baseline of energy savings.
- Take advantage of weatherization programs for low-income homes.
- Not in favor of a Time-Of-Sale energy conservation ordinance. But home owners should have access to a measurable, detailed road map for what energy efficiency improvements they can make. Give homeowners an incentive for getting a whole house, blower door energy audit.
- Reduce building permit fees for energy efficiency improvements.
- Recognition program for homes with significant energy reductions.
- Work with local realtors to have a new home owner welcome basket with information in it about El Cerrito conservation programs, coupons for a home energy audit, etc.
- Require energy efficiency improvements at the time that the home is being renovated for other work. EG, ceiling insulation at the time new roof is put in.
- Green home recognition program.

iii. ***Other Strategies:***

- Encourage businesses to join the County Green Business Program, maybe through outreach via the City's Environmental Quality Committee and lower business license fees.
- Contest to make art out of waste diverted.
- Encourage people to shop green and local.
- Organize neighborhood Green Teams to help people embrace conservation. Use the power of peer pressure.
- Use social networking media to get comments about the Climate Action Plan on-line.
- Work on messaging in order to make a global problem more understandable

5. **Wrap-UP & Next Steps**

- Next meetings will cover Land Use/Transportation and Energy Efficiency Strategies in more depth. They will take place on Saturday, Nov 13, 10 am -12 pm and Thursday, Dec 2, 7pm to 9 pm

Workshop Notes

El Cerrito Climate Action Plan
Workshop #2

Saturday, November 13, 2010, 10:00 p.m.
El Cerrito City Hall (City Council Chambers)
10890 San Pablo Avenue

Workshop Presenters:

- Melanie Mintz, Environmental Services Division Manager, City of El Cerrito
- Maria Sanders, Environmental Analyst, City of El Cerrito
- Ariel Ambruster, Facilitator, Center for Collaborative Policy

1. **Meeting Overview and Participant Introductions**
   Ariel Ambruster gave an overview of the meeting agenda and ground rules. Meeting participants introduced themselves and briefly discussed their interest in the Climate Action Plan.

2. **Presentation on El Cerrito's Climate Action Planning Process**
   Maria Sanders presented information on El Cerrito's Climate Action Plan (CAP), greenhouse gas emissions inventory, and land use/ transportation strategies to reduce vehicle miles travelled. She challenged participants to think about strategies that would create a 15% reduction in transportation emissions due to activities in El Cerrito. This would equal 1,000 less car miles per person per year, or just 19 miles per week per person. Please refer to ***CAPWorkshop#2.ppt*** for more on the contents of the presentation.

3. **Land Use and Transportation Strategies Small Group Discussion**
   Meeting participants were given a worksheet to fill out individually, soliciting their comments on the following questions and then asked to discuss their responses in small groups:
   - What are the barriers to you personally being able to drive fewer miles?
   - Are any of these barriers ones that the City of El Cerrito could help remove? If so, what could the City do to make it easier for you and/or other community members to use other transportation alternatives (e.g. biking, walking, transit)?
   - Many "vehicle trip reduction" strategies will rely on voluntary participation by members of the community in order to be successful. What types of things could the City do to encourage greater participation by the community in the following activities?
     - Commuting to work or school car-free (i.e., walk, bike, or take public transit) or by carpool more often
     - Walking and biking to do personal errands or go to recreational opportunities more often
   - A number of possible policies, ordinances, programs, or projects that could help El Cerrito reduce its carbon footprint were discussed today. What additional ideas do you have for options the City could pursue? (Ideas that don't necessarily affect transportation-related emissions are also welcome).

4. **Group Reports and Large Group Discussion**
   Participants reported back to the larger group on their small group discussions:
   i. ***Group 1:***
      - Main barrier is time and hills.

- Encourage bicycling with safer bike routes, like Bicycle Boulevards
- More bike racks on buses.
- A chair lift or something to get bikes and walkers up the hills
- Free shuttle like Emeryville
- Improve the Ohlone Greenway – make it more social with more points of activity, like coffee carts and more dog parks
- Incentivize bus travel for those who don't know public transportation. A new rider starter-kit with maps and complementary tickets.
- More education: Empower people with the details that would help them reduce trips, like what would the results be if you boosted your car mpg by 10 extra miles.

ii. ***Group 2:***

- Time pressures and safety issues are the main barriers.
- There is no silver bullet to reducing car travel. The little things matter and build up into something significant. It's like a bunch of silver bb's.
- People are going to walk more if the way is interesting and safe.
- Create network of walkpools (like carpools)
- Ohlone Greenway not as pleasant a walk because BART is so noisy. Create a "Squeaky Wheel Coalition" to pressure BART to regrind their wheels.
- Del Norte BART Station area needs to be more safe in order to encourage walking in the north part of town.
- Sponsor a walking contest. Use credits, incentives. A treasure hunt.
- New homeowner welcome packet, including transit and energy efficiency information.
- Work with 511.org to publicize their programs.
- Clean fuels for corporate fleets like biodiesel school buses, garbage trucks
- Expose people to the different vehicle technologies out there with an alternative vehicle car share program.

iii. ***Other Ideas***

- People feel powerless and guilty about their driving habits. Help them figure out as broad a set of options so they can figure out what will work for them.
- Reducing vehicle miles should be the theme of the next Earth Day
- Incentives for higher fuel efficient cars, like a sales tax reduction
- Provide fueling infrastructure and parking spots for alternative fuel vehicles.
- How can City support carbon offsets? Set up a voluntary community offset fund.
- Issue a carbon reduction challenge. Go to civic groups to see if they are interested in doing a challenge. Maybe a friendly competition between groups, neighbors?

5. **Wrap-UP & Next Steps**

- Final workshop will cover Energy Efficiency Strategies in more depth. It will take place on Thursday, Dec 2, 7pm to 9 pm

Workshop Notes

El Cerrito Climate Action Plan
Workshop #3: Reducing Energy Use

Thursday, December 2, 2010, 7:00 p.m.
El Cerrito City Hall (City Council Chambers)
10890 San Pablo Avenue

Workshop Presenters:

- Melanie Mintz, Environmental Services Division Manager, City of El Cerrito
- Maria Sanders, Environmental Analyst, City of El Cerrito
- Ariel Ambruster, Facilitator, Center for Collaborative Policy

1. **Meeting Overview and Participant Introductions**
   The purpose of this meeting is to gather community input on possible Climate Action Plan strategies for reducing residential and commercial energy use. Ariel Ambruster gave an overview of the meeting agenda and ground rules. Meeting participants introduced themselves and briefly discussed their interest in the Climate Action Plan.

2. **Presentation on El Cerrito's Climate Action Planning Process**
   Maria Sanders presented information on El Cerrito's Climate Action Plan (CAP), greenhouse gas emissions inventory, and strategies to reduce energy use in the residential and commercial sectors. She challenged participants to think about strategies that would create a 15% reduction in emissions from energy use in El Cerrito. Please refer to the ***CAPWorkshops*** presentation for more on the contents of the presentation.

3. **Reducing Energy Use Small Group Discussion**
   Meeting participants were given a worksheet to fill out individually, soliciting their comments on the following questions and then asked to discuss their responses in small groups:
   - What energy reduction strategies do you support?
   - What energy strategies do you not support?
   - Public education and incentive programs are unlikely to produce enough energy savings to achieve the AB 32 goals. How can the City overcome this barrier?
   - A number of possible policies, ordinances, programs, or projects that could help El Cerrito reduce its carbon footprint were discussed today. What additional ideas do you have for options the City could pursue? (Ideas that don't necessarily affect energy-related emissions are also welcome).

4. **Group Reports and Large Group Discussion**
   Participants reported back to the larger group on their small group discussions:
   i. ***Group 1:***
      - Pursue energy reduction incentives
      - Provide information and feedback; Use energy consumption data so that people within one neighborhood can compare their energy use to others in their neighborhood.
      - Present information in a compelling way.
      - How can smart meters help?
      - Encourage solar installations with a Property Assessed (PACE) Financing mechanism.
      - Work with commercial building owners to harness their sites for solar energy production.

- Pool community demand for energy efficiency and solar installations to create economies of scale.
- More LED streetlights.
- Get people out enjoying their community spaces more so that they don't stay home using a lot of electronic gadgets.

ii. ***Group 2:***

- Homeowners need capital to make energy efficiency improvements. Get grants to provide incentive funds.
- Support Property Assessed Clean Energy Financing (PACE) to provide an easy way to borrow money for energy efficiency and solar work in existing buildings.
- Investigate other lending strategies – donation program, peer-to-peer, revolving loan fund provided by the city? Energy savings would provide the return on investment.
- An Energy Conservation Ordinance at the time-of-sale for a property would be interesting. But is the sales turn-over rate high enough to yield the type of savings that we need?
- Time-of-sale energy conservation ordinance would be one of the only ways to get energy efficiency improvements in rental units.
- Are there residential models where energy conservation service companies finance improvements through the energy savings?
- Get a surcharge on energy use to finance energy efficiency improvements.
- Devise a rewards program for those who reduce energy.
- Educate at the permit counter.
- Require higher energy efficiency standards for new construction or remodels.
- Encourage more multi-family housing development. Multi-family housing is inherently more efficient.
- New homeowner welcome packet, including energy efficiency information.

iii. ***Large Group Discussion***

- Need to find money to incentivize people to make improvements with existing buildings.
- Prioritize bang for the buck when it comes to grant funds. Concentrate on educating the people in between the "early adopters" and the folks who won't change.
- Confront people with the real outcomes of their choices.
- Ordinance for a Time-of-Sale energy audit. Realtors could use the information to sell a house. Reports should give people vivid information about their potential home.
- Have a contest challenging cities along San Pablo Avenue to see who can get the most energy savings.

Appendix N
Draft Climate Action Plan Public Review Process

The draft El Cerrito Climate Action Plan (CAP) was provided for public review and comment according to the information provided below. The CAP was made available at the following locations: El Cerrito City Hall (10890 San Pablo Avenue, El Cerrito), El Cerrito Library (6510 Stockton Avenue, El Cerrito), El Cerrito Recycling and Resource Center (7501 Schmidt Lane, El Cerrito).

Submitting Comments

Public comment on the Draft CAP was accepted through March 15, 2013. Several options were available for submitting comments:

Email: Sent comments via email to msanders@ci.el-cerrito.ca.us.

Fax: Faxed comments to (510) 559-7682

Mail: Mailed comments to: Climate Action Plan, City of El Cerrito, 10890 San Pablo Avenue, El Cerrito, CA 94530

In Person: The City of El Cerrito's Environmental Quality Committee (EQC) received public comment on the draft CAP on Tuesday, February 12 and on Tuesday, March 12 during its regular meetings. Both meetings were held from 7-9 PM in the City Council Chambers at the El Cerrito City Hall, 10890 San Pablo Avenue, El Cerrito.

Review Process Timeline

2/12/13: Release of draft Climate Action Plan

2/12/13: Release of CAP CEQA Document (Initial Study/Negative Declaration)

2/12/13: Beginning of Public Comment Period

2/12/13, 7-9 PM: EQC Meeting to Kick-Off Public Comment Period

3/12/13, 7-9 PM: EQC Meeting to Receive Public Comment

3/15/13: Close of Public Comment period

4/9/13: EQC passes motion recommending City Council adoption of CAP

4/10/13: Planning Commission passes resolution approving Initial Study/Negative Declaration and recommending City Council adoption of CAP

Prepared by

City of El Cerrito

10890 San Pablo Avenue

El Cerrito, CA 94530