City of San Mateo
Sustainable Initiatives Plan

Developed by the
Sustainability Advisory Committee

as recommendations
to the City Council

December 17, 2007

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Introduction

The Sustainable Initiatives Plan was developed for the City Council by the Sustainability Advisory Committee. The Plan addresses several areas of environmental responsibility for the City including citywide sources of CO_2 emissions, impacts from new developments and construction, city planning, waste and resource management and all modes of transportation. The Plan also addresses ways to engage the public and businesses in creating solutions to the environmental challenges. The Committee presents this set of recommendations to the City Council for consideration with the hope that the council will adopt the Plan and move the City forward into a more sustainable future.

Background

In May 2007, the City Council appointed the Sustainability Advisory Committee to develop the Plan and authorized the City to hire a consultant to facilitate the process. The committee was made up of nine members, representing different organizations and stakeholder groups in the city:

1. City Council Member	Brandt Grotte
2. Planning Commissioner	Kelly Moran
a. Alternate:	Robert Gooyer
3. Public Works Commissioner	Marion Weiler
4. Parks & Recreation Commissioner	Ellen Ulrich
5. Chamber of Commerce designee	Linda Asbury
6. Association of Realtors designee	George Studle
7. Large employer representative	Linda Jansen
8. Sustainable San Mateo County designee	Tom Rounds
9. San Mateo Climate Action designee	Rafael Reyes
a. Alternate:	Stephanie Reyes

A diverse group was chosen to work collaboratively on the Plan in order to assure that recommendations would consider economic and equitable concerns as well as the environmental issues. In addition to this group and the consultant, many City staff were engaged in formulating recommendations to accomplish the objectives voiced by the committee.

As part of the process, the public was encouraged to give voice to their environmental concerns and to participate in the discussion of recommendations that would affect their work or lives. A meeting was held with a group of developers to identify incentives and concerns about the green building program. Presentations followed by public comments and questions were held at the following venues: library events for the public on climate change and green building, the San Mateo County Association of Realtors, the San Mateo United Homeowners Association, the American Institute of Architecture – San Mateo County Chapter, and the San Mateo Chamber of Commerce Public Policy Committee. A Public Meeting was held on December 8, 2007 to present the recommendations to the community before finalizing them.

The Sustainable Initiatives Plan (Plan) is a companion document to the Climate Action Plan for Operations and Facilities (CAP). This Plan focuses on citywide efforts and programs of the City that reach out to and for the public. The CAP is for city agency efforts and includes specific actions that will reduce the energy and fuel use in city facilities and operations, thus lessening the climate change impacts that the city is responsible for. These two documents together present a full picture of what the City can do to increase its efforts to be more sustainable, more environmentally conscious and more climate friendly.

Committee Focus

The Committee first created a long list of environmental ideas and issues to consider. The public and a group of local environmental and sustainability nonprofits were asked to contribute their ideas as well. Each item on this initial list of over 80 items was considered and then sorted into these categories:

- City Operations and Facilities (directed to staff)
- Problems larger than the city (outside of the committee's influence)
- Change that is already in progress
- Items for the committee to consider

From this list and further discussion, the committee decided to focus on these key opportunities:

1. Climate Change issues (including transportation and waste)
2. The Built Environment (including a green building program)
3. Partnerships with Businesses and Agriculture

Although the committee did not take up partnerships as a separate discussion, many of the recommendations suggest partnerships with other agencies or local businesses and the City is encouraged to utilize collaboration as a means to achieving the targets identified in this Plan.

The committee also wanted to ensure that attention was given to:

1. Public outreach for the different focus areas
2. Recommendations that support the City's ability to continue to address sustainability issues in the future.

Structure of Sustainable Initiatives Plan

The Plan consists of a series of recommendations in the following topic areas:

- Climate Change
- General Plan
- Transportation
- Built Environment
- Waste and Recycling
- Suburban Forest
- Water
- Public Outreach and Communication
- Continuing Sustainability Efforts

Each section contains a short description of supporting information, the recommendations (identified by letter-number combinations such as ***CC 1***), and a list of potential actions and/or additional information that support the recommendation and which would enable the City to meet the targets.

Each section includes information on implementation challenges and ends with information on the cost and staffing needs.

The final section places all the recommendations in a time frame for implementation and then ends with a brief summary.

Recommendations and Actions

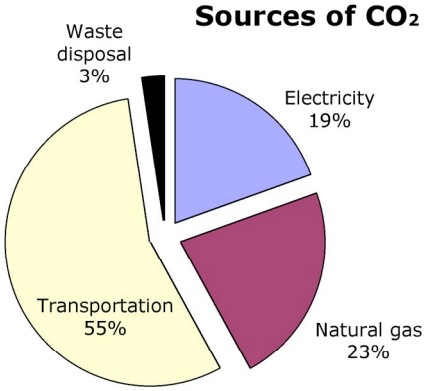
1. Climate Change

The City of San Mateo Carbon Footprint, released in October 2007, identified the sources of CO_2 on a citywide basis and provided the following information. The Footprint is available for downloading at www.cityofsanmateo.org/green.html.

The Community Picture

Source of CO_2	Metric tons of CO_2
Electricity	121,055
Natural gas	141,657
Transportation	346,201
Waste disposal	16,096
Total	**625,009**

Sources of CO_2

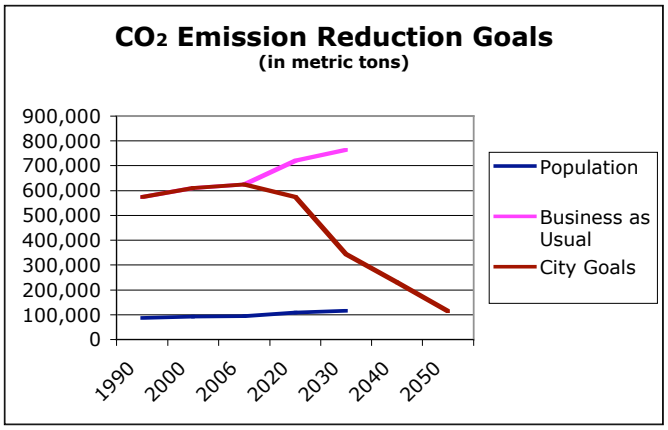


Each of these sources was addressed by the committee in relation to its contribution of CO_2 emissions and recommendations for transportation, energy use and waste reduction are included in this Plan. The following two recommendations are the overarching goals related to climate change.

CC 1: Reduce greenhouse gas emissions each year, beginning with 2009 emissions being less than the 2006 baseline and then exceed the 2020 state target (emissions at 1990 level in 2020) and meet the 2050 state target (emissions at 80% below 1990 level). State emission targets are defined by AB 32, the Global Warming Solutions Act of 2006.

Re-evaluate these targets in the year prior to any General Plan revision but no less than every five years in regards to current scientific data and performance to determine if the City needs to increase the targets or its efforts to achieve them and to set interim targets.

	Population	Business as Usual	City Goals
1990	86,870	573,332	573,332
2000	92,482	610,370	610,370
2006	94,700	625,009	625,009
2020	109,300	721,367	573,332
2030	115,800	764,267	343,999
2040			229,333
2050			114,666



The chart and table show the reductions that are needed to meet the goals described in CC 1.

The population estimates were provided by the Association of Bay Area Governments (ABAG) and they have not yet estimated population for years beyond 2030. Therefore, it is not possible to estimate CO_2 emissions adjusted for population beyond 2030 as the increase in CO_2 emissions is directly related to population growth. In the chart, the Population line shows a slight but steady growth pattern; the Business as Usual line has a steeper increase because it reflects the population increase multiplied by 6.6, which is the tons of CO_2 emissions per capita. In order to achieve the targets for overall emissions reductions, the per capita figure must be reduced concurrently. The target for 2020 reflects a goal of 5.2 tons/person and the 2030 target necessitates reaching a level of 3 tons/person. Even without additional population growth from 2030 to 2050, the per capita goal for emissions is less than 1 metric ton.

Reaching these targets is challenging but achievable. In addition to encouraging or requiring behavior changes for residents and businesses, some actions will be needed on a federal or statewide basis or by utilities. For instance, changing miles per gallon requirements for new cars will reduce greenhouse gases. As PG&E changes production of electricity to cleaner or carbon neutral sources, the impacts of electricity use are reduced. PG&E or other agencies may offer new or increased rebates or incentives for solar hot water and more efficient water or space heaters, which will reduce consumption of natural gas. These external actions and others, as yet unknown, will assist the City in meeting its goals.

It is important that the City not depend on these external changes to reach its goals. The Committee has identified many different ways in which the City can proactively address climate change and benefit other environmental issues such as air quality and resource conservation at the same time. All recommendations in this report will reduce greenhouse gas emissions if implemented and so, in addition to being the Sustainable Initiatives Plan, this document can be considered as the Citywide Climate Action Strategy.

Potential Supportive Actions

1. Implement all other recommendations in this Plan
2. Support legislation that will support the City's sustainability goals, such as considering support for odometer readings on annual registration renewals and, if needed, to determine what type of fuel the vehicle uses.
3. Support regional initiatives and projects that will help support the City's

sustainability goals, such as Caltrain electrification

4. Update the 2006 Footprint by changing the transportation methodology to one based on the T 7 recommendation, as this relates more closely to the behaviors we are trying to change. Include this information in future inventories instead of or in addition to the geography-based footprint for transportation.

CC 2: Recognize potential climate change consequences such as increased sea level rise, changing weather events, less snow melt in the Sierras - therefore less drinking water availability, hotter temperatures, changing air quality and more heat related health issues.

a. Incorporate consideration of these effects in development of General Plan updates, disaster planning, City projects, infrastructure planning, future policies and long-term strategies.
b. Explore voluntary adjustments of base flood elevation.

There are two sets of actions in regards to climate change: the proactive approach which reduces CO_2 and therefore lessens the impacts on global warming and the adaptive approach which serves to ensure that we are prepared for the inevitable change. CC 1 and most of this Plan cover the proactive approach and CC 2 addresses the City's role in anticipating and planning for changes.

The climate change work is included in the following sections; costs and staff requirements are included with the specific actions.

2. General Plan

The General Plan will be updated and revised beginning in 2008; the following goals and actions incorporate the recommendations into the General Plan and ensure that the recommendations become part of future planning. The City of San Mateo's commitment to transit oriented development (TOD) while being sensitive to existing neighborhoods is strongly aligned with the goals of the Sustainable Initiatives Plan and therefore, no recommendations on TOD are included in this section.

GP 1: Incorporate Sustainability into the General Plan Revision Process, including but not limited to the following objectives:

a. Provide a thorough review of the existing Circulation Element. Work with the City's Bikeways and Pedestrian Committee to identify feasible, safe and effective bikeways with good connectivity between activity centers and provision of sufficient convenient bicycle parking and feasible, safe and effective pedestrian walkways to major destinations. Update the bikeways map to reflect changes. Ensure that the General Plan includes efforts to increase the safety and convenience of choosing to travel by bicycle or on foot.

b. Add or strengthen green building, energy efficiency and water conservation objectives to be in alignment with the strategies and intent of the Sustainable Initiatives Plan.

c. Review and strengthen the waste and recycling sections to reflect the intent of the waste goals in the Sustainable Initiatives Plan.

d. Include Climate Change concerns when updating the Plan and ensure that future planning takes climate impacts into consideration.

GP 2: Thoroughly review the General Plan to verify that there are no conflicting policies that would limit sustainable planning or green building design, developments and practices. Any conflicts that are identified should be considered and adjusted to encourage rather than discourage sustainability, to the extent the adjustments are not inconsistent with local, voter-approved measures.

a. Ensure that any Green Building Program or energy efficiency requirements that exceed building code are covered in the General Plan, in order that requirements would be found to be legally in compliance with the General Plan.

GP 3: Update the General Plan to include any relevant policy directions from the Sustainable Initiatives Plan in the appropriate sections, including but not limited to:

a. Adaptive strategies to mitigate the potential effects of global warming, such as decreased supply of drinking water, increased intensity of weather patterns, rising sea level and decreasing diversity of species and their habitats.

GP 4: Review land use designations for high intensity land uses located outside the Transportation Corridor or other transit nodes. When considering development or redevelopment of these locations, insure that proposed uses meet the City's sustainable transportation goals.

The General Plan revision process is already scheduled to begin in 2008. Therefore, there is no additional cost or staffing needed in order to implement these items.

3. Transportation

Most person trips generated in San Mateo are nine miles in length or less. About 99% of all origins and destinations for trips made within San Mateo are within five miles of each other.[1] Without any significant change in the modes selected for this travel, it is predicted that as much as half of these trips will be made by single occupant private automobile. Alternatively, many of these trips can be made by bicycle or, for shorter distances, walking. For trips approaching five

[1] City of San Mateo Travel Forecasting Model. General Plan 2020 forecasts without Bay Meadows, Hexagon Transportation Consultants

miles in length, bus transit may be an option if a transit stop is conveniently located and service is frequent enough to make it a viable option for all or some of the trip. Introduction of new travel modes like the *Segway* create the potential for significant change in travel modes.

The age of the traveler can also impact the range of feasible travel modes. Over 30% of the City of San Mateo population is between the age of 20 and 39.[2] Another 27% of the San Mateo population is between 40 to 59 years of age. When combined, these two age groups represent about 58% of the City's population. These same groups also are among the most mobile and generally include a significant share of the population that could elect to walk or bicycle to nearby destinations.

Other factors impacting the choice of mode include weather, trip purpose, special needs of the traveler and travel time limits. For example, more flexibility in mode selection exists for recreational travel than for commute trips. In part, this may be a result of greater limitations on allowable travel time for commute trips.

Work trips are slightly more than 21% of all daily trips. Commute trips average about 25 minutes in length.[3] This is a factor that has remained relatively stable over time and suggests that commute length is one important consideration when selecting both where to live and where to work. Other factors include affordability, schools, etc. For the Bay Area and San Mateo, in particular, cost of housing is a significant obstacle for people wanting to locate closer to their workplace. Only about 11% of all commute trips have both origin and destination within San Mateo.[4] The Metropolitan Transportation Commission has identified reducing the cost of housing as a potential major transportation objective in their development of the next Regional Transportation Plan. However, the committee has chosen to not set a goal in regards to housing because the City is currently pursuing this question through other processes. Sustainability should be addressed in future discussions on housing and land use as they relate to transportation.

Modal choice for commute trips is distinctly different compared with the shorter local trips. The modal choice for commute trips originating or destined for San Mateo compared with all trip types is:

	Commute Trips[5]	**All Trips[6]**
Single Occupant Auto	78.1%	52.6%
2 or more Auto	11.4%	30.8%
All Transit	5.9%	5.1%
Rail Transit	3.2%	
Bus Transit	2.7%	
Bike & Walk	2.7%	11.5%

[2] City of San Mateo, *Census 2000 Profile*, Community Development Department, Planning Division, August 2003
[3] Metropolitan Transportation Commission, Journey to Work Survey and City of San Mateo, *Census 2000 Profile*, Community Development Department, Planning Division, August 2003
[4] City of San Mateo Travel Forecasting Model. General Plan 2020 forecasts without Bay Meadows, Hexagon Transportation Consultants
[5] City of San Mateo, *Census 2000 Profile*, Community Development Department, Planning Division, August 2003
[6] City of San Mateo Travel Forecasting Model. General Plan 2020 forecasts without Bay Meadows, Hexagon Transportation Consultants

The City of San Mateo Travel Forecasting Model can potentially provide some interesting metrics for evaluation of land use and transportation issues. Two commonly used metrics are vehicle miles traveled (VMT) and vehicle hours traveled (VHT). It is predicted that in 2020, trips with either origin or destination within San Mateo will produce almost 3.5 million VMT and almost 85,000 VHT. Fuel consumption and vehicle emissions can also be used directly as program objectives or as measurement of trip reduction programs.

Producing a significant travel behavior for our daily trips or modal shift in commute trips will require an array of changes to existing land use patterns, transportation alternatives and transportation pricing on a regional basis. Many things have been tried over recent years. Transportation Demand Management has been an integral part of transportation planning for almost two decades but commute and travel patterns in the region have not changed substantially in that time.

Achieving aggressive transportation goals cannot be achieved through San Mateo actions alone and cannot be achieved using the same techniques that have been used in the past or even those being used today. Instead, much more difficult policy choices will need to be considered and many will need to be selected if aggressive goals are to be achieved. These difficult and politically challenging strategies will include concepts like congestion pricing, paid parking, higher tolls, increased land use densities and heights and aggressive strategies to make housing more affordable in San Mateo County.

Reaching aggressive transportation goals is difficult to envision without some intervening and unanticipated events. For example, significant progress in reducing vehicle miles traveled could be anticipated with a severe shortage of gasoline and the accompanying increased costs. There may be other unanticipated events that will move San Mateo and other communities toward a more carbon neutral travel behavior including advances in communication, introduction of new vehicles or availability of alternative fuels.

The following recommendations reflect the variable nature of mode selection based on trip length, traveler age, and trip purpose. The goals will require significant shifts in personal travel behavior, transit availability and convenience, transportation pricing and vehicle variety. As it is not practical to eliminate all single occupant vehicle trips, the City should also address ways in which to reduce the emission impacts of all trips. Representative actions that will be required to achieve the goals are provided for each suggested goal. These are not intended to be all-inclusive but rather to provide some indication of the range of actions that must support the suggested goal if it is to be achieved. “L” indicates supportive actions that are strictly local and “R” indicates those that require regional or state action.

T 1: Increase mode share for pedestrian and bicycle travel to 30% for trips of one mile or less by 2020. Bicycle and pedestrian travel currently represents about 3% of all travel.

Potential Supportive Actions

1. Improve pedestrian walkways and amenities within commercial areas and within residential neighborhoods and the connections between them (L)

2. Reduce crossing distances where pedestrians must cross arterial streets through the construction of bulb-outs or other methods (L)
3. Complete the implementation of the bicycle network as described in the General Plan and expand as appropriate to ensure a complete and convenient network of bicycle facilities (L)
4. Increase parking costs within the downtown area (L)
5. Introduce paid parking in other commercial areas outside of the downtown (L)
6. Price parking in the downtown and other commercial areas to discourage moving of vehicles between parking facilities (e.g. initial hour(s) more expensive than subsequent time when parked) (L)
7. Work with private and public schools to increase the number of students walking or bicycling to school (see T 3) (L)
8. In advance of demand, and to help promote demand, provide adequate, secure, covered parking for bicycles in city garages and as a condition for new multifamily and commercial development (L)

T 2: Reduce single occupant automobile usage for trips less than 5 miles in length by 20% by 2020.

Potential Supportive Actions

1. All actions included under Goal T 1
2. Implement flexible local transit service within San Mateo such as shared taxi, jitney or additional shuttles (L)
3. Use a significant portion of any increased gas tax revenues or identify an ongoing funding source to fund local flexible transit service and other alternative mode travel options (L,R)

T 3: Reduce single purpose school trips made by private automobile by 50% by 2020.

Potential Supportive Actions

1. Implement “walking pools” to schools (L)
2. Implement increased carpooling for students (L)
3. Make flexible local transit available for student travel (L)

T 4: Reduce single occupant commuting by 20% by 2020.

Potential Supportive Actions

1. Implement T 1, T 2, T 3, T 5
2. Expand Transportation Management Association beyond Corridor Plan Area (L)
3. Require trip reduction of at least 20% for all development (L,R)
4. Expand frequency and improve convenience of regional transit services (R)
5. Implement aggressive congestion pricing during commute times (R)
6. Require parking cashout programs and paid parking at employment centers (L)
7. Establish parking maximums (L)
8. Facilitate the provision of transit passes or other direct transit subsidies for residents and employees within San Mateo. (L)

T 5: Concentrate future development near rail transit stations.

Potential Supportive Actions

1. Encourage developments within Transit Oriented Development Areas (TOD) to maximize population and employment within allowable zoning limits. (L)
2. Reduce development potential outside of the TOD areas (L,R)
3. Provide incentives for development within TOD areas (L,R)
4. Improve development certainty for projects within TOD areas (L,R)
5. Provide additional funding for infrastructure upgrades to serve TOD areas (L,R)
6. Encourage a broad mix of multi-family housing units sizes in TOD areas (L)

T 6: Reduce fuel consumption and vehicle emissions for trips originating in or destined for the City of San Mateo.

Potential Supportive Actions

1. All trip reduction strategies outlined in T 1 through T 5 above will help meet this potential goal (L,R)
2. Provide incentives for the purchase and use of fuel efficient vehicles such as recharging stations for electric vehicles or preferential parking for carpools, hybrids and alternative fuel vehicles and develop a way to make this action enforceable (L,R)
3. Provide discounted parking rates for carpools, hybrids and other vehicles that help reduce CO_2 emissions (L)

T 7: Develop baseline data and methodology to be used to evaluate progress in achieving the transportation recommendations.

Potential Supportive Actions

1. Survey San Mateo residents to determine the number of trips being made in each trip category:
    a. Trips of less than one mile
    b. Trips of less than five miles
    c. School trips
    d. Commute trips
2. Use the City's transportation forecasting model to estimate trip making characteristics in 2020/2030
3. Test land use and transportation options within 2020/2030 scenarios to identify measures most likely to achieve transportation recommendations and goals

Addressing the transportation goals will require reallocation of some staff activities as well as investment in transportation services and infrastructure. With approval of the Sustainability Initiatives Plan, the Public Works Department annual work programs will include specific tasks and programs to be implemented to advance the Plan's objectives.

It is anticipated that the trip reduction tasks will be assigned to the Peninsula Congestion Relief Alliance (Alliance). Some supplemental funding would be required since some of the requested services will exceed what are typically provided by the Alliance. Introducing a Transportation

Management Association (TMA) to serve the downtown or other areas of the City would be expected. Management of the TMA would also be assigned to the Alliance. Funding of a TMA would be provided primarily by the participating businesses and residents that benefit from the programs provided by the TMA.

Implementing a Community Transit Service requires a significant annual investment. While some grant funding may be available, some grant funds are provided as "seed money" to initiate new services and must be replaced with some on-going revenue source. On-going grants from the Bay Area Air Quality Management District require that 25% of all costs be paid by the local agency or participating businesses. Total annual operating costs for the current San Mateo shuttles are almost $300,000 of which about $225,000 is funded through grants. The costs for implementing a Community Transit Service would depend on the type and richness of service to be provided as well as the availability of grant funding. It would also depend on the level of funding provided by Sam Trans as part of their overall transit services provided within the County.

The most costly and potentially time consuming response to the Sustainable Initiatives Plan recommendations will be in implementing bicycle and pedestrian enhancements. Seemingly simple improvements such as corner "bulb-outs" to shorten pedestrian crossing distances can be costly. Often drainage or other design issues result in significant costs for this type of project. For example, the bulb out that was constructed in the northeast quadrant of the intersection of Baldwin and San Mateo Drive cost over $70,000. Similarly, other pedestrian enhancements that include sidewalk widening, streetscape improvements and other amenities can also be very costly depending on the work to be done, impacts to the street cross section, drainage modifications required and specific streetscape improvements planned. It will take a variety of different funding sources to effect these changes, including Measure A, Transportation Development Act, Transportation for Livable Communities and improvements included in new development projects.

Some bicycle improvements may be relatively simple to implement. This would include improved signage and designation of appropriate routes. However, some improvements required to implement bicycle lanes may require street widening and can become expensive to construct. Public Works is currently designing bike lanes on Delaware Street between Bermuda and 25th Avenue. This 1/2-mile project, which requires some street widening, is currently estimated at about $250,000.

4. Built Environment

The built environment is responsible for about half of the City's CO_2 emissions, the primary use of water and natural resources and 22% of the waste stream[7]. Of this, there are over 39,000 housing units – both single family homes and multi-family units – and of these, just a bit over half are owner-occupied. Of the single family homes, less than 2% are sold each year and only a

[7] 2004 Statewide Waste Characterization Study, California Integrated Waste Management Board, www.ciwmb.ca.gov/ConDemo/

small percentage come in for permits. Therefore, programs that address the current housing stock are essential to spur a significant reduction in energy or water use.

A broader policy issue for city consideration is where sustainability and green building fit into other city priorities and programs presently in place. Existing programs affecting development include the Below Market Rate (BMR) program, Art in Public Places and Child Care. These represent costs that are applied to development projects. Additional cost burdens on development for new sustainability efforts must be reasonable and considered as part of the total requirements on new projects.

This Plan includes several recommendations for programs that will address the effects of new construction, remodels, renovations or tenant improvements and existing building stock. Details will need to be worked out by the Community Development Department (CDD) as the programs are implemented but effort was made to include different stakeholders in the discussion process in order to ensure that the recommendations are reasonable and will be effective.

Two kinds of incentives that can influence future developments are those which save time and money for the developers. A meeting with a small group of developers and other opportunities for input provided a clearer picture of what is needed to move the market to be greener. Actions by the City that will shorten the planning process, make it more predictable (having the new standards be sufficient rather than a starting point) and eliminating barriers or requests perceived as arbitrary will save developers significant amounts of time and expense, which can then be spent on a better environmental approach to their developments. The CDD will establish incentives as part of the implementation process. (See BE 7.)

Many other jurisdictions are in the process of developing a green building program and some have successful proactive programs to address specific resource conservation issues. These programs were considered as part of the process of making suggestions for BE 2. The recommendations being made here are appropriate steps for the City to take at this time, since active encouragement and education has been utilized for well over a year.

BE 1: Develop and implement a pilot program that will survey the existing housing stock and small businesses in the city and provide statistically significant data on the status of energy and water building practices and equipment (such as use of low flow and energy savings equipment and insulation, weather stripping and dual pane windows, air conditioner, heater and water heater efficiency, etc.)

Use this information to develop a proposal for a new program that will reach a high percentage of the existing housing stock and small businesses – both rental and owner occupied – to upgrade one or more of the identified needs and provide data to assess progress. With proposed funding sources, bring this proposal to the City Council.

BE 2: Incorporate one or more programs into the work within the Department of Community Development that will provide alternative means of upgrading

existing residential units and small businesses to a higher level of sustainability with a focus on reducing CO_2 emissions, water consumption and energy use.

Potential supportive actions:

1. Develop a pilot program of sustainability grants up to $1,500 from CDBG Funds for the reduction of the use of natural gas through furnace, heater ducts and water heater upgrades. Water conservation programs could include low flow toilets and showerheads.
2. Focus on marketing existing programs of PG&E and Cal Water to encourage residents to take advantage of opportunities to retrofit for water, energy and conservation or to purchase Energy Star appliances,
3. Explore the idea of a program to distribute electric monitors for homes to assist homeowners to better understand energy consumption and costs.
4. Develop a plan for review that would require the upgrading of water flow and hot water heating systems and conversion of light bulbs when applying for a residential remodel project. This would be applicable to the remodels that are below the threshold for GreenPoint Rated Remodels, when that program is implemented.
5. Support and promote through education and outreach any existing programs and businesses in the community that provide solar installations.
6. Increase dissemination of information developed by BAWSCA, SMCWPPP (formerly STOPPP) and other public agencies or nonprofits on drought tolerant landscaping, water efficient irrigation and integrated pest management.

BE 3: Adopt a green building policy for the design and construction of new civic facilities to meet or exceed LEED Silver green building standards and for building remodel projects to meet or exceed LEED Certified. For some civic buildings, the GreenPoint Rated program may be applicable; in that case, buildings may be designed and constructed to meet or exceed a GreenPoint Rating of 75 points for new construction and 50 points for remodels in place of a LEED rating.

BE 4: Develop a voluntary program to implement the Build it Green GreenPoint Rated System for single family and multi-unit development projects. After initial implementation as a voluntary measure, the program shall require that new construction projects meet or exceed 75 points. When the GreenPoint Rated checklist for remodels is released, add remodels that are larger than 500 square feet to the voluntary and then required program. The mandatory program will begin with building permits issued for multi-family homes in 2009 and building permits issued for single family homes in 2010.

BE 5: Develop a voluntary program for private builders to meet or exceed LEED Silver standards in new developments and buildings. After initial implementation through voluntary participation supported by incentives for participation, the program shall require that new construction projects and major, non-retail remodeling or renovation projects (as defined in the City of San Mateo Green Building Standards of Compliance Table) be designed

and constructed to meet or exceed LEED Silver standards. The mandatory program will begin with building permits issued in 2009.

BE 6: Prior to making the green building program mandatory, educate builders, developers and homeowners and the public on the proposed new standards and implement the voluntary programs.

BE 7: When the City adopts mandatory green building standards, these shall serve as the city's expectations for sustainable development. The City shall promote higher standards through the use of incentives.

BE 8: Every three years, in accordance with the review and updating of the GreenPoint Rated system and LEED checklists, the City shall review and update its green building requirements, as it does with Title 24 and Building Code changes. The intention of this periodic review is to work towards continual improvement and strengthening of the standards, to ensure that the changes in LEED and GPR are sufficient to accomplish this and to consider whether a higher level of LEED or increased number of points should be required to meet the City's CO_2 reduction and sustainability goals.

BE 9: Increase new annual installations of solar or renewable energy systems for 2008 to 400kW. Increase subsequent year annual installations by 10% each year (2009 = 440kW of newly installed systems), until 2011 and at least 25% per year thereafter.

Last year's new installation of solar photovoltaic systems was 100 kW, so this goal reflects a four times increase. An average home installation is 4.3 kW, so this goal represents about 93 installations (70 more than FY 06/07). When other renewable systems are included, such as geothermal, solar hot water or wind, the energy savings would need to be converted to kW.

A 4kW system could produce 5760 kWh on an annual basis; the installation of 400 kW would eliminate 120 metric tons of CO_2 emissions, which is less than .3% of the overall CO_2 from residential electricity use. However, solar installations are cumulative, so every new system will continue to provide clean electricity for years. In 2020, (factoring in a population increase of 15% and an increase of 10% in the amount of installations per year), the solar would replace about 6% of the residential demand. A 25% increase on a yearly basis would replace 16% of the residential demand by 2020.

Solar photovoltaics continue to be costly, even after significant rebates. A 4kW system costs approximately $38,000 and would receive a $9,000 rebate if installed today. However, there are several things the City can do to encourage people to take this step, in spite of the expense.

Potential Supportive Actions:

1. Promote or join local partnerships and opportunities that offer renewable energy options to the residents and/or help inform them of rebates and options. For instance, the City could actively support

   a. Current efforts by Hillsdale High School and Owens Electric & Solar (a San Mateo based business) to provide a discount to homeowners while supporting the High School's solar program
   b. Build It Green in running a Green Building and Solar Home Tour in the City
2. Ensure that the permit process is quick and inexpensive.
3. Consider development of a solar access ordinance.
4. Establish a reporting system in the Building Division to track the cost and size of the system, the efficiency measures that were done concurrently or prior to the permit and the expected kWh to be produced by the system.
5. Provide basic information to the public – distribute the RecycleWorks solar flier, run the RecycleWorks video, Harnessing the Sun's Energy on the City's cable network, add links and information to the Green Page on the City website.
6. Include a recommendation to address energy efficiency items before installing renewable energy systems in any promotion. Ensure that any solar program has an efficiency component.
7. Ensure that City permitting staff have expertise in solar and energy efficiency actions.
8. Watch for innovative programs and strategies being developed in other cities, such as the Berkeley solar and efficiency loan program, and, after the programs have been implemented and the details addressed, evaluate these programs as potential ideas for San Mateo to copy.

The following implementation concerns will be considered prior to and during the first year of the educational and voluntary Green Building programs.

1. Consistency of Green Building Standards with other City Standards and Policies

The City's General Plan, Zoning Code, Standards for Historic Buildings and various Design Guidelines should be reviewed to ensure consistency with any adopted Green Building Standard. As part of this effort, there should be some prioritization; that is, do the elements required to meet Green Building Standards outweigh the other elements of design review, for example. While not the Community Development Department's area of responsibility, the codes and standards of other departments/division, such as Building, Public Works, Fire, and Parks and Recreation should also be examined. (See also the GP recommendations.)

2. Coordination of Green Building Standards Review with Other City Development Review Processes

As is stated in most of the available literature, green building measures need to be designed into the project from the beginning. This will require coordination with existing development review processes. For example, at what point does the sustainability review process begin: with the pre-application submittal (if applicable) or during the formal application process? The time and cost implications on planning application processing also need to be determined and should be discussed as programs are implemented so there are no surprises down the road.

3. Implementation Timetable

The recommendations include a one year period of voluntary compliance followed by mandatory standards. Informing the building applicants in advance that the standards will become mandatory at a certain time allows them to plan for this change and eases implementation. A year from the time of approval by the City Council is adequate to allow for both staff training (see below) and public awareness. The City will need to engage in extensive public outreach regarding the standards for single family dwellings and low density residential projects and will need to inform all builders and developers of the new program.

4. Staff Training

There will need to be sufficient staff training to allow staff to discuss the implications of the City's Green Building Standards with potential applicants and members of the public. Even assuming a third party verification system for GreenPoint Rated, staff will need working knowledge of these standards and LEED. Sufficient time and money will need to be allotted to this effort.

5. Impacts of Certification Required

Several questions regarding certification for both the GreenPoint Rated Program (GPR) and LEED projects need to be discussed and resolved. GPR has a third party certification process that is fairly easy to implement. The LEED Certification process is more lengthy and comprehensive and occurs after building occupancy. Therefore, the recommendations are to utilize the third-party certification process for GPR and to make the certification process for LEED optional. However, the City will need to determine a process by which the City is assured that a proposed project is designed and built to LEED standards and actions to be taken for any noncompliance issues. This process will be developed as the voluntary program is implemented, allowing any unforeseen issues to be addressed.

6. Budget and Staff Time Allocation

Establishing an ongoing Green Building Program will require budget allocations and staff time. The compliance process for LEED requirements, which still needs to be planned out, will have costs associated with it and a determination on how these costs will be covered will need to be addressed. To fully embrace green building as integral to the planning process, current staff will need time to attend trainings and conferences and consideration should be given to any need to increase staffing.

City of San Mateo Green Building Standards of Compliance

Proposed Standards

Project Description		Building Improvements				Education
		Checklist Required	Minimum Threshold	Compliance Process*	Incentives	
MUNICIPAL	5,000 SF or larger; new construction	LEED NC	LEED Silver	USGBC	N/A	None needed
	Less than 5,000 SF; new construction			CDD		LEED training for staff for NC and EB
	Renovations greater than 5,000 SF	LEED EB or CI	LEED Silver	USGBC		
COMMERCIAL	All new construction and tenant improvements (other than retail TI) ≥ 10,000 SF	LEED CS, NC, CI, ND as appropriate	LEED Silver	City-affiliated LEED AP review	Yes, if applicant chooses USGBC certification	LEED training for staff
	New construction: < 10,000 SF			Choice of City-affiliated LEED AP review or CDD		
	All retail TI and other TI < 10,000 SF	Energy and water saving recommendations or requirements	None	None	None	Need to prepare educational document
MULTI-FAMILY	New Construction	GPR for new construction	After voluntary program – requirement for 75 points	independent verification	Yes, if applicant chooses higher levels	GPR training
	Remodels	GPR for remodels	Encouraged, but None	None	None	
SINGLE FAMILY HOMES	New construction or substantial removal	GPR	After voluntary program – requirement for 75 points	independent verification	Yes if applicant chooses higher levels	GPR training
	Second Story Additions and/or Remodels ≥ 50%SF	GPR for Remodels	Encouraged but None	None	None	GPR training
	Remodels < 50% SF	GPR for remodels (smaller projects may be given energy and water saving suggestions)	None	None	None	GPR training
MULTI – USE & OTHER BUILDINGS	(1) Any multi-use building that has a total of 10,000 SF; (2) 5 or more housing units plus commercial space; (3) unique buildings that are 10,000 SF or more.	GPR if building is primarily residential; LEED standards as determined by building type	LEED Silver Or GPR 50 points.	City-affiliated LEED AP review or CDD	Yes, if applicant chooses USGBC certification	Green Building training for specific building types as required

All references to LEED imply the most current version of LEED at the time of design application or of registration with the USGBC. LEED has several sets of standards: NC (new construction); EB (existing building); CI (commercial interior); CS (core and shell); ND (new development). All references to GPR imply the most recent version of GPR. Applicant may choose to use LEED for residential instead of GPR.

If there are inconsistencies between the text and this chart, the text governs.

* Compliance process defined:

Applicant pays cost of certification directly to third party:

1. USGBC = official certification process for LEED.
2. Independent verification = a third party evaluation of the new home resulting in an official GPR certification.

Applicant pays fee to city for compliance review:

3. City-affiliated LEED AP = City will send design out for compliance review.
4. CDD = The Community Development Department will review compliance.

5. Waste and Recycling

The City of San Mateo is a member of the South Bayside Waste Management Authority (SBWMA). SBWMA supports the 12 member agencies in the area of solid waste and recycling and owns the Shoreway Recycling and Disposal Center. Solid waste, recycling and green waste is currently collected in San Mateo and the other SBWMA member agencies by Allied Waste Services under an exclusive franchise agreement. Solid waste rates are established by the City based on operating costs for the collection services as determined through SBWMA. The City has adopted progressive rates (increased cost per unit as volume of waste increases, with unlimited free recycling) for both residential and commercial customers as an incentive to recycle. The current monthly residential and commercial rates are illustrated below:

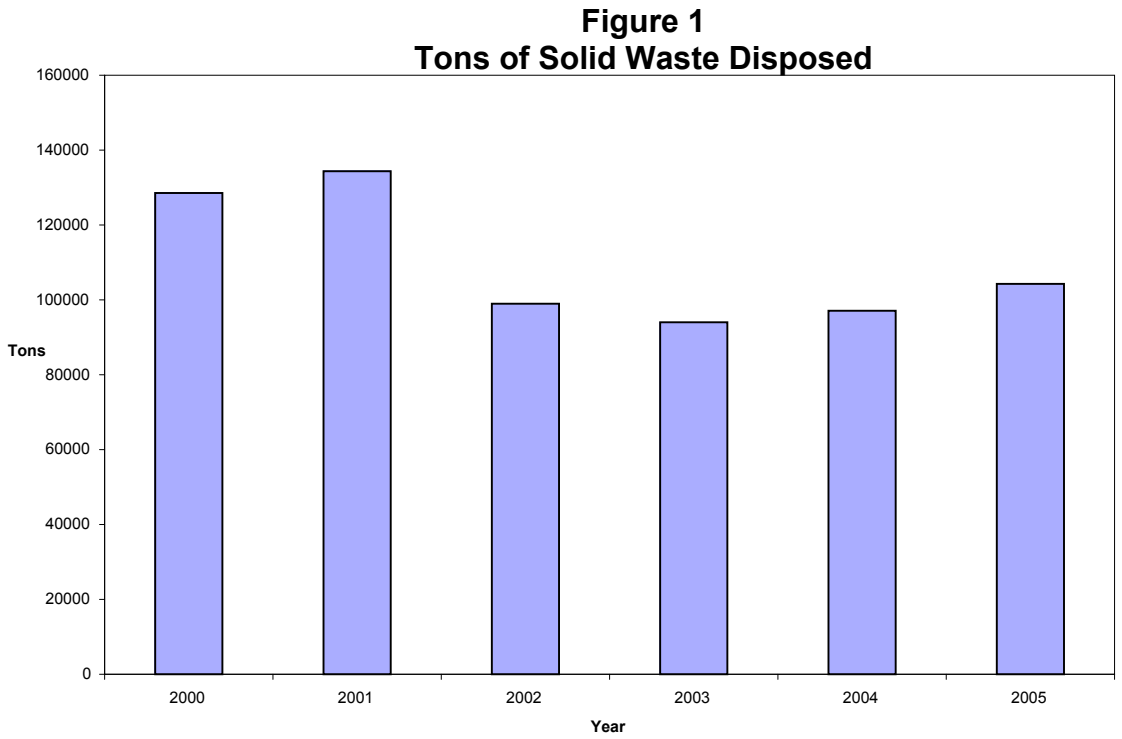
Residential (Curb Service)	
Container Size (Gallons)	**Cost per Gallon**
15 – 32	$0.365
33 – 64	$0.402
65 – 96	$0.414
97 – 128	$0.426
> 128	$0.439
Commercial (Can Service)	
1 – 100	$0.456
101 -200	$0.466
201 – 400	$0.480
401 - 800	$0.494
801 – 1200	$0.509
1201 – 1600	$0.524
1601 – 2000	$0.540
> 2000	$0.556

Currently, SBWMA is preparing to issue a Request for Proposals for both Collection Services and Operation of the Shoreway Recycling and Disposal Center. The services being requested will include more frequent collection of recyclables and conversion to *single stream* recycling. Single stream recycling will be simpler for residents and businesses and is, therefore, expected to substantially increase recycling. One downside to single stream recycling is that the mixture of different recyclables within the same container will degrade the quality of some materials like paper and cardboard.

In recent years, the City has taken a variety of measures to increase recycling within San Mateo. This has included supplementing resources available through Allied Waste and SBWMA by hiring a full time recycling coordinator. The most significant recycling effort has been the implementation of a Construction and Demolition ordinance, which requires construction projects to show proof of recycling of appropriate materials. This provided the single most important impact to our waste stream and raised diversion from 34% in 2001 to 49% in 2005 as estimated using the California Integrated Waste Management Board (CIWMB) formula. In

addition to implementing the Construction and Demolition Program, the recycling coordinator focuses on increasing commercial and multi-family residential recycling which are uses where increases in recycling are most needed and most difficult to achieve.

The actual tons diverted as measured by Allied Waste suggest a 30% diversion in 2005. Calculating actual diversion numbers is a different process than reporting to the CIWMB and represents a non-normalized statistic.



The big reduction in 2002 is the result of implementation of the Construction and Demolition Ordinance. However, it is also important to note that tons disposed have not continued to decline.

Recommendations of the Sustainable Advisory Committee include aggressive goals in the area of recycling and waste elimination. Achieving substantial increases in recycling and diversion of waste from the landfill will require a combination of local, regional and national initiatives. For example, it is important that manufacturers review and revise their packaging practices and materials to reduce their contribution to the ultimate waste stream. A good example is the need for the elimination of fire retardant from Styrofoam packaging so that it can be recycled.

Measuring the amount of material is not that easy. The increase in California redemption value for cans and bottles has spawned a potentially significant amount of recycling outside of the Allied Waste Services normal pick up. Individuals are electing to recycle where they receive the redemption value rather than including these materials in their regular recycling collection. In addition, there are increasing reports of individuals intercepting the cans and bottles on pick up days prior to their collection by Allied Waste. On the commercial side, some national retail companies are electing to transport recyclables to a central location for processing. The measured

disposal and diversion recorded by Allied Waste do not currently capture materials redeemed at recycling centers or centrally processed by national retailers.

As with transportation, significant changes in our pattern of waste and disposal are difficult to envision simply by projecting forward our current living, consumer and other life patterns. Significant change will require introduction of either significant planned or unanticipated change. Reduced landfill space will clearly create some urgency for those setting public policy but not necessarily for the general public. Introduction of some significant costs or other factors will be required to influence individuals to change their consumption and waste patterns.

The potential supportive actions for these two recommendations are intended to start the process of moving towards higher diversion rates and to be fully considered in light of a new waste and recycling contract and changing conditions and information on characterization of the current waste stream. Additional waste diversion programs can be implemented on a citywide basis or through the SBWMA as appropriate and funded through service charges as necessary.

WR 1: Increase measured waste diversion to 50% by 2020.

The City is currently at 30% diversion when measured; (30% measured equals 50% by the California Integrated Waste Management Board formula)

Potential Supportive Actions

1. Increase costs for residential and commercial waste collection (L)
2. Increase degree of progression within collection rates (L)
3. Use increased waste collection revenue to provide waste reduction incentives (L)
4. Make recycling mandatory (L,R)
5. Require mandatory composting of green and food waste, while maintaining public health safeguards (L,R)
6. Set aggressive waste reduction goals for all new development (L)
7. Require modifications within existing buildings to accommodate recycling bins (R,L)
8. Require mandatory segregation of recyclables for all public (on-street, parks, public buildings) waste collection (L)
9. Provide expanded waste reduction outreach and support for local businesses (L)
10. Provide expanded waste reduction outreach and support for residential customers (L)
11. Support backyard composting to minimize transportation impacts while maintaining public health safeguards. (L)

WR 2: Achieve maximum diversion (90%) by 2050.

Potential Supportive Actions

1. Implement all of WR 1
2. Require significant change in packaging of all commercial products (R)
3. Make Styrofoam more easily recyclable or find alternative packing materials that can be recycled (R)
4. Improve markets for recycled materials (R)

WR 3: Participate in promoting emerging solutions to health, environmental, and waste management problems caused by consumer products such as

Product Stewardship/Extended Producer Responsibility (EPR) and changes in packaging.

Potential Supportive Actions

1. Add EPR to the City's Environmental Purchasing Policy; select vendors that sponsor or participate in take-back programs. (L)
2. Support legislation, regulation and other actions that will reduce hazards and environmental impacts caused by products and their packaging, reduce the use of natural resources in packaging or will make products and/or their packaging materials easier to reuse or recycle. (L)

6. The Suburban Forest

Recognizing that trees provide cooling up to 5 degrees Fahrenheit, increased habitats, a more-walkable environment and other benefits, establish a stronger, more proactive tree planting program to expand the suburban forest.

The City of San Mateo's Municipal Code provides protection for trees within the public right of way and heritage trees. Removal of these types of trees requires a permit, public notice and a replacement plan. Trees provide shade for homes and streets, which can help maintain cooler temperatures.

SF 1: Expand the Suburban Forest

Potential Supportive Actions

1. Provide information regarding the benefits of trees within a suburban environment
2. Collaborate with a nonprofit to sponsor a tree planting event, as a celebration of Arbor Day, to bring together and educate the residents interested in tree planting with nonprofits that are active in other cities, such as California ReLeaf (a state organization), Our City Forest (Santa Clara County), City Trees (Redwood City), Canopy (Palo Alto), Friends of Urban Forests (San Francisco) etc.
3. Consider solar access in tree planting programs

7. Water

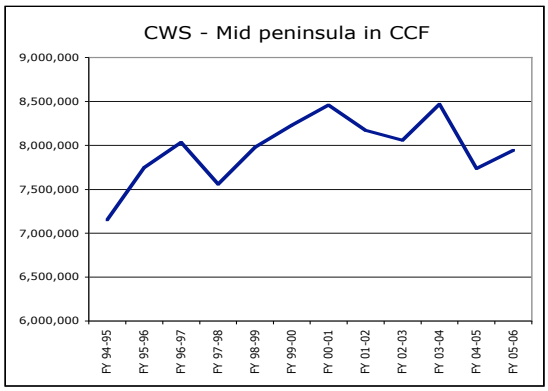
The Sustainability Advisory Committee is concerned about water supply and recognizes that less snowpack in the Sierras, a predicted effect from global warming, will result in a decreased water supply and necessitate changes in the consumption patterns of all stakeholders. Also, the cost of water will increase to three times the current rates over the next few years, as San Francisco continues to upgrade the Hetch Hetchy system. This should spur interest in water efficiency programs for businesses, municipal facilities and residents.

There is a symbiotic relationship between water and energy use; energy is needed to transport, purify, heat and treat water and water is used in the production of energy to maintain cooler temperatures in the generation process. The Carbon Footprint shows that the Waste Water

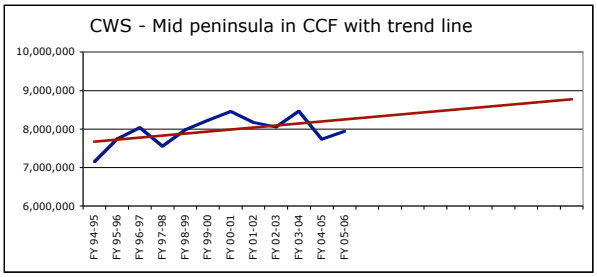
Treatment Plant is the biggest source of CO_2 in the City's Operations and Facilities Carbon Footprint. Another example from the Footprint is that the highest amount of CO_2 in the built environment citywide is generated by residential use of natural gas; water heaters (along with general heating) represent the highest use of natural gas in homes.

The City of San Mateo is served by California Water Service (CWS) Mid-Peninsula District, which also includes the City of San Carlos and adjacent unincorporated portions of the County. According to the Bay Area Water Supply Conservation Agency (BAWSCA) Annual Survey for FY 2005-2006 released in March 2007:

- CWS Mid-Peninsula used 90 gpcpd (gallons per capita per day) in 05-06 for residential and 131 gpcpd for gross water use.
- Other cities and districts in San Mateo County range from 49 – 277 gpcpd for residential (Westborough – Hillsborough) and 65 – 339 gross (Daly City – Menlo Park).
- CWS does not charge progressive rates. Of the 18 water districts in San Mateo County, 11 have progressive rates.
- CWS purchases 98.3% of its supply assurance of water – this number includes all three of their local districts: Mid-Peninsula, Bear Gulch (Portola Valley, Woodside and surrounding areas) and South San Francisco. The supply assurance could be reduced in the event of drought or supply emergencies such as system failures.



These charts show twelve years of water consumption history for the CWS Mid-peninsula district. The chart below adds a trend line with a ten-year projection.



The data:

1000 CCF	FY 94-95	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06
CWS - MP	7,150	7,749	8,037	7,559	7,981	8,232	8,460	8,173	8,059	8,471	7,738	7,945

CCF: 100 cubic feet (748 gallons)

W 1: Establish a partnership with CWS and BAWSCA to promote the water reduction strategies that are offered and to create an outreach program that will help to inform residents and businesses of increasing costs and the need for conservation efforts.

W 2: Partner with the City of San Carlos (the other city in the water district) to set a target for 2020 to reduce the residential per capita usage to 70 gallons/day

and to develop programs to reach that target. Reduce citywide gross water consumption per capita to 102 gallons/day.

The gallons per capita per day (gpcpd) targets of 70 for residential (currently 90 gpcpd) and 102 for gross consumption (currently 131 gpcpd) are equivalent to seeking a 10% reduction while factoring in a population growth of 15% by 2020. The end result will be about 10% less water consumption than FY 2005-06.

Several external factors will help the cities reach these goals. The price of water will triple in the next few years as the upgrades to the Hetch Hetchy water supply system are completed. Dry years that instigate programs to conserve will give greater publicity and awareness regarding water issues. A reduction in water consumption also takes pressure off the wastewater treatment plant to meet new volume requirements.

Potential Supportive Actions

1. Implement W 1 and W 4
2. Work with CWS to implement progressive water rates
3. Actively support a strategy to decouple water utility revenues from water consumption and any other regulatory changes that will offer incentives to CWS to actively pursue conservation

W 3: Re-evaluate the potential for use of recycled water to replace potable water for appropriate uses.

W 4: Establish a staff position to take oversight responsibility for water quality and conservation in San Mateo, whose primary responsibilities would include:

a. Maintaining partnerships with CWS, BAWSCA and the City of San Carlos in order to pursue conservation opportunities and programs.
b. Identifying ways in which the City can proactively address the issues of declining water supply, water quality and future water demands.
c. Developing programs to reduce water consumption in existing housing and commercial establishments.
d. Procuring funding for expanded water reduction programs in the City.
e. Coordinating with and assisting other staff on public education and outreach about water pollution in sewers (such as prescription drug disposal) and stormwater drains.

8. Public Outreach and Communication

Engaging the public is critical to the success of this Plan.

PO 1: Create a multi-phased information campaign to educate residents and businesses on this Plan and to spark behavioral changes in individual energy and water consumption, transportation mode choices, and

recycling.

Potential Supportive Actions

1. Highlight the relationships between health, finances and choices relating to transportation modes or other environmental issues.
2. Increase utilization of the City website to inform
3. Provide materials in other languages as appropriate
4. Ensure that each program and recommendation within the Sustainable Initiatives Plan is supported by an appropriate level of outreach and communication

9. Continuing Sustainability Efforts

S 1: Maintain sufficiently frequent reviews of the Sustainable Initiative Plan to ensure its continuing implementation, usefulness and appropriately strong goals, including but not limited to:

a. An annual CO_2 emissions inventory for communitywide emissions and city operations and facilities, including information on transportation impacts according to trips that originate or end in San Mateo (can replace or supplement the geographical approach taken in the 2006 footprint.)
b. A publicly available assessment report to the City Council every 2 years, which would include an evaluation of progress on the recommendations, evaluation of the success of specific implementation steps, and recommendations for improvements to ensure the plan is meeting its goals and is in keeping with the most current scientific information and public policy approaches regarding appropriate targets and programs.
c. Adding the CO_2 reduction goals and other appropriate metrics to the City's business plan and departmental work plans.

S 2: Assign clear responsibility for each recommendation in this report to specific departments, ensure that needed actions are included in future departmental work plans and that the concept of continual improvement of process and outcomes on all recommendations is internalized.

S 3: Assign responsibility for the overall implementation of the Plan and for continuing investigation of opportunities to participate in local actions that will improve the sustainability of the City and region.

Potential Supportive Actions

1. Take part in the Pathway to Sustainable Cities program that is under development by Sustainable San Mateo County (SSMC)
2. Nominate businesses in San Mateo that demonstrate leadership in sustainability for the SSMC awards
3. Participate and/or sponsor the quarterly meetings of Sustainable Silicon Valley (SSV) and act as a liaison for businesses and SSV to connect with the purpose of reducing their GHG footprint.

4. Review and adopt, if appropriate, the Countywide Energy Strategy when finalized.

Timetable for Implementation

	RECOMMENDATION	IMPLEMENTATION (COMPLETION)					
		2008	2009	2010	2020	2050	Ongoing
CC 1	Reduce CO_2 emissions below 2006 levels		√				√
	Below 1990 emissions				√		
	80% below 1990 emissions					√	
CC 2	Adaptive Strategies						√
GP 1	Incorporate Sustainability into General Plan (GP)		√				
GP 2	Review GP for conflicting policies		√				
GP 3	Incorporate policies from this Plan and adaptive strategies into GP		√				
GP 4	Review and update land use designations in GP		√				
T 1	Increase mode share for pedestrian and bicycling to 20% for trips < 1 mile				√		
T 2	Reduce single occupant auto usage for trips < 5 miles				√		
T 4	Reduce single occupant commuting by 20%				√		
T 5	Concentrate future development by railway stations						√
T 6	Reduce fuel consumption and vehicle emissions for trips starting or ending in San Mateo						√
T 7	Develop baseline and metrics	√					
BE 1	Pilot survey of existing housing stock	√					
	Development of supporting program		√				
BE 2	Incorporate programs into CDD	√					
BE 3	All municipal buildings built to LEED Silver standards or to GreenPoint Rated 75 points, if more appropriate. Remodels at certified level.	√					
BE 4	GreenPoint Rated for residential (voluntary)	√					
	GPR 75 point required ~ single family multi-family		 √	√			
BE 5	LEED Silver for commercial (voluntary with incentives)	√					
	LEED Silver required		√				

	RECOMMENDATION	IMPLEMENTATION (COMPLETION)					
		2008	2009	2010	2020	2050	Ongoing
BE 6	Education process for staff, developers and homeowners		√				
BE 7	Develop incentives; improve planning process	√					
BE 8	Review standards every three years						Every 3 years
BE 9	Renewable energy	√			√		
WR 1	Increase measured waste diversion to 50%				√		
WR 2	Achieve maximum diversion (90%)					√	
WR 3	Support emerging solutions						√
SF 1	Tree planting	√					
W 1	Partnerships to promote water conservation opportunities	√					
W 2	Reduce consumption				√		
W 3	Recycled Water			√			
W 4	Staff position of oversight	√					
PO 1	Public outreach and education						√
S 1	Review and Assessment	√	√				√
S 2	Assign departmental responsibility	√					
S 3	Assign overall responsibility	√					

Immediate Actions for 2008

If the Plan is adopted by the City Council, the following actions will be scheduled for implementation in 2008, and departments will include other steps in their work plans for 2008/2010, which are prepared in early 2008. (Parenthetical dates are based on City Council approval of Plan in January 2008.)

City Manager's Office

- Assign responsibility for overall implementation of this Plan. (February 2008)
- Set procedures in place to ensure that adaptive strategies are fully considered in appropriate staff reports and proposals. (February 2008)
- Ensure that all recommendations are "owned" by a department; determine which department will implement the Water (W) recommendations, including the staff position, the Climate Change (CC), Suburban Forest (SF), Public Outreach and Education (PO) and Sustainability (S) recommendations. (February 2008)
- Assign staff to do annual reporting of CO_2 emissions and to coordinate biannual progress reports to City Council. (June 2008)

Community Development Department

- Prioritize Built Environment programs to be implemented.
- Review staffing and budget implications for each of these programs.
- Modify department work plan for 2007/08 fiscal year to reflect new activities to be carried out the remainder of this fiscal year.
- Develop and implement top priority program if no additional staffing or funds required reflecting changes in department priorities.
- Commence training of planning division staff in the Green Point Rating System
- Schedule two Build It Green trainings for staff and to offer to developers and builders who have worked within the City during the last three years.
- Prepare budget and work plan to include prioritized sustainable programs in the 2008-2010 Business Plan and Department Work Plan.
- Include the General Plan recommendations in the General Plan process, which is scheduled to begin in 2008.

Public Works

- Review staffing and budget implications for each of these programs.
- Modify department work plan for 2007/08 fiscal year to reflect new activities to be carried out the remainder of this fiscal year.
- Establish baseline information for pedestrian and bicycle travel within San Mateo using a transportation survey developed and implemented by the Alliance.
- Test General Plan land use and scenarios to test impacts on single occupant vehicle commuting.
- Working with the Bikeways Committee, complete thorough review of General Plan Circulation Element Bikeways Plan and recommend revisions to the City Council to create a more coherent and interconnected system of bike facilities.
- Complete formation of Corridor Plan TMA and initiate investigation of feasibility of Downtown TMA.
- Partner with SamTrans to evaluate the feasibility of Community Transit System in San Mateo.
- Develop work program and strategy for expanded recycling outreach and implementation.
- Review solid waste rates to maximize impacts of progressive rates on residential and commercial recycling.
- Work with SMWMA to maximize the effectiveness of the recycling programs and facilities as part of the new collection and operation agreements.
- Identify potential programs to boost recycling that can be implemented prior to the termination of the existing collection and operations agreements.
- Add EPR to the City's Environmental Purchasing Policy and work with the Finance Department to select vendors that sponsor or participate in take-back programs.

Summary

Each of the recommendations included in this Plan will help reduce the CO_2 emissions. The 2020 goal of reaching 1990 levels represents a decrease of about 52,000 metric tons/year from the 2006 footprint and an offset of an additional 96,000 tons/year that business as usual and a 15% population increase, as estimated by ABAG, would generate.

At this time the City does not have enough information to estimate quantitatively the CO_2 emissions reductions for the measures in this Plan. The committee believes these recommendations are an excellent start.

An initial qualitative assessment of the impacts of the recommendations in this report suggests further actions will be necessary in order to meet these goals. The committee strongly recommends that quantitative estimates be included in the first two-year review of the Plan.

The adoption of the Sustainable Initiative Plan will result in a greener set of buildings being designed and constructed in the City, more people who bike and walk within the City, less waste going to the landfill and most importantly, less CO_2 emissions being generated by the residents and businesses within the City. It will provide a framework for the community to explore innovative solutions to environmental and sustainable issues and to develop essential skills in rapidly evolving new technologies.

Continued attention to sustainable issues and to changing best practices and opportunities will help to keep the City in a leadership role in regards to climate change and environmental issues and will demonstrate to the residents and businesses the intention to provide a sustainable city to the future generations who will live here.

Thank you

It has been a pleasure to serve the City and to work with such a dedicated and qualified committee on developing these recommendations. Everyone brought something special to the collaborative process and endured with good humor the continual influx of reading assignments and frequency of meetings. It is my hope that everyone will leave this project with a greater understanding of the environmental issues and with interest in watching the City make the changes that we have suggested in this Plan. It is, after all, *your* city!

Sustainability Advisory Committee:

Linda Asbury	Kelly Moran	George Studle
Brandt Grotte	Rafael Reyes	Ellen Ulrich
Linda Jansen	Tom Rounds	Marion Weiler

In addition, I would like to thank Larry Patterson, Director of Public Works, and Bob Beyer, Community Development Director, for their significant contributions in crafting the recommendations, potential actions and programs, writing sections of this Plan and tolerating my fairly consistent stream of requests, especially at the end of the process! Their input makes this document much more readily useful and ensures a greater sense of ease in implementation. I am also appreciative of Christina Gilmore, Management Analyst, who assisted me with all aspects of the committee over the last few months. She is responsible for everything from arranging the public meeting to proofreading to arranging for food to adding insight into the process and she brought a lovely sense of cheer to the work.

This is a big achievement ~ many thanks to everyone,

Jill Boone
Sustainability Consultant

Jill Boone

4795 Lage Drive
San Jose, CA 95130

408-379-6835
ecojill@gmail.com

Appendix GREEN BUILDING RATING SYSTEMS

Introduction

The City has been using the San Mateo Countywide Guidelines to Sustainable Buildings as an educational tool and as active encouragement to build greener buildings. These guidelines were developed about five years ago and were instrumental in introducing green building technologies into San Mateo County. However, without being updated and with no point system they no longer will serve the purpose of developing a Green Building Program for the City of San Mateo.

Two other green rating systems for the construction of new and remodeled structures are being widely used in California to establish programs to inspire or require green building practices. These are the Bay Area collaboratively developed GreenPoint Rating System and the national United States Green Building Council LEED Rating System.

- **Build It Green—GreenPoint Rated (GPR)**

GreenPoint Rated focuses on single family and small multi-family projects and remodels. It was established in Alameda County in 2005 through a merger of the Green Resource Center and Bay Area Build It Green. Build It Green has developed GreenPoint Rated (GPR), which is used for evaluating the sustainability of single family, small multi-family and remodel projects. Its membership consists of public agencies, building industry professionals, manufacturers, and suppliers, architects, designers and planners. Presently, Build It Green is associated with 100 agencies in the Bay Area, Los Angeles, Sacramento and San Diego. The Green Building Guidelines are used officially in 50 cities, of which 12 cities require the use of GreenPoint Rated.

The GreenPoint Rated program provides Guidelines and Checklists for New Home Construction, home remodeling, and multifamily developments. GreenPoint Rated rates newly constructed homes in five categories:

- Energy efficiency
- Resource Conservation
- Indoor Air Quality
- Water conservation
- Community

If a new home meets minimum point requirements in each category and scores more than 50 points on the rating system it will qualify to bear the GreenPoint Rated Label. This program applies to new home construction for single family and multifamily projects as well as remodeling residential projects. Different Green Building Guidelines and GreenPoint Checklists exist for these types of projects.

If the City implements GPR for new and remodeled single family and multifamily projects, certification can be obtained from a third party and submitted to the City. In early 2008, new remodeling guidelines with a GreenPoint Rated system will be available.

Build It Green trains certified field inspectors who work through the project to assist the development of the project. If the City requires compliance with GreenPoint Rated, the Inspector/Rater would be considered a third party hired and paid for by the developer/contractor.

There are four reports/inspections that take place during the planning and construction of the project.

This program has been primarily used for large tracts of single family homes found elsewhere in the Bay Area. However, many jurisdictions participated in the technical and program development of GPR and several jurisdictions are including GPR in proposed green building programs.

- **United States Green Building Council—Leadership In Energy and Environmental Design (LEED) Green Building Rating System**

The United States Green Building Council (USGBC) has created LEED Green Building Rating Systems for the following types of construction

- New Construction
- Existing Buildings
- Commercial interiors
- Core and Shell
- Schools
- Retail
- Healthcare
- Homes
- Neighborhood Development

LEED has become the nationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

LEED has several levels with in the rating system: Certified, Silver, Gold, and Platinum. In order to achieve a certification the sustainable standards to be achieved must be determined at the beginning of the project and monitored through the design, construction phases and through six months of building occupancy. It takes approximately six months to a year to receive a building certification from the USGBC. The certification process is much more demanding than GreenPoint Rated in that each phase has to be carefully documented. For example, the documentation for the Police Station project is costing about $70,000; this does not include the additional cost from the decision to build a green building.

The City presently is considering a LEED Neighborhood Development, the Station Park Green Specific Plan and Design Guideline application for the existing K Mart site.

In addition to the San Mateo Main Library, which has applied for LEED Gold, several other LEED buildings have been built in San Mateo County: The William and Flora Hewlett Foundation Building (LEED Gold), the County of San Mateo Forensic Laboratory (LEED Certified), the Youth Services Center (not yet determined), Sugen (CI LEED Gold), and 681 Gateway (C&S Silver). Over a dozen other buildings in the County are registered but not completed.